

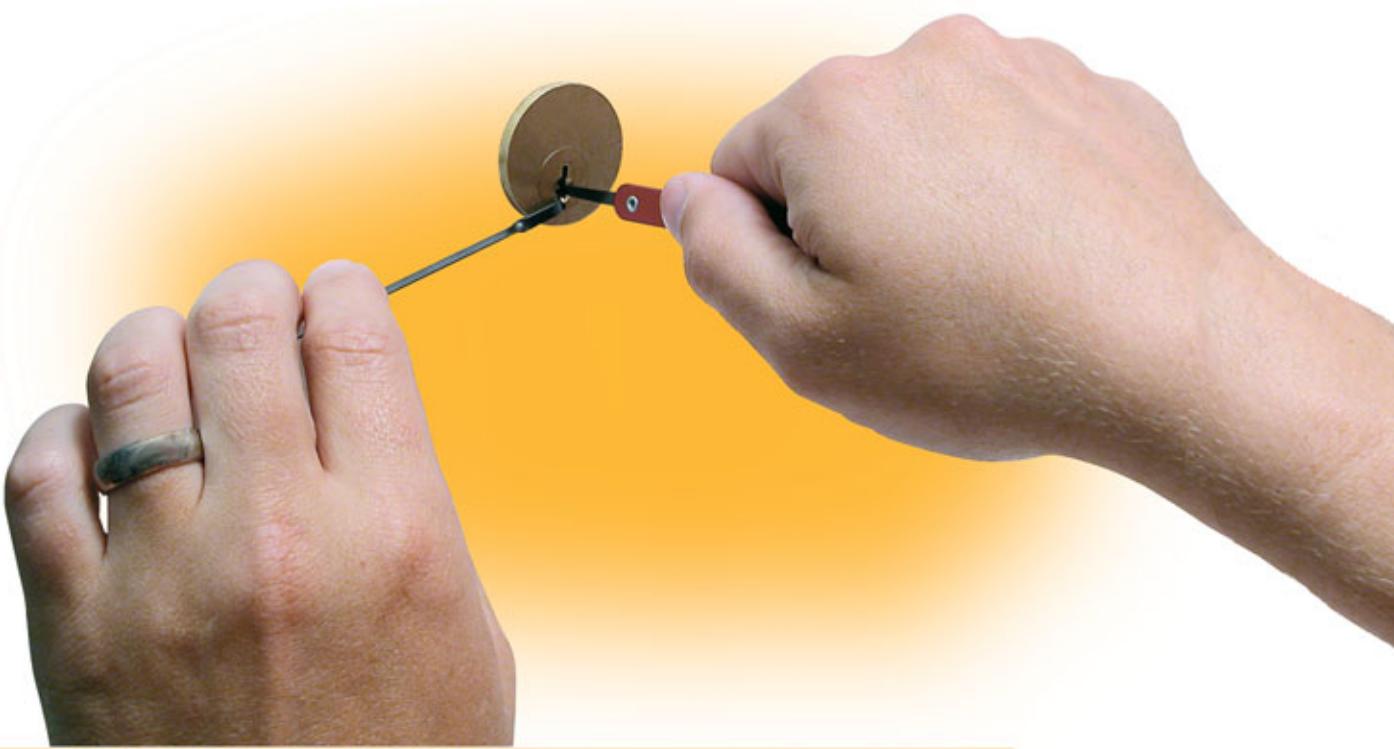
August 2004
Volume 75
No. 8
\$7.00

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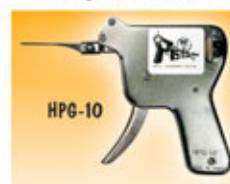
COLOR-35
Color Coded Pick Set



NDPX
Dental-Style Pick Set



KGB-1
Mini Belt Pick Set



HPG-10
Pistolpick™



NDPK-32
Superior Pick Set



ES-2000
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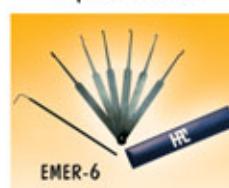
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PIP-13
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BFW-8
Bi-Fold Wallet Pick Set



EMER-6
Emergency Pick Set



DSP-1
Double-Sided Pick Set



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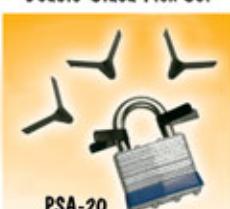
AKK-P17
Pocket Killer Kit



PKS
Warded Padlock Pick Set



IMB-11R
"I Mean Business"
Pick Sets



PSA-20
Padlock Shim Picks

On The Cover...



The Kaba-Access E-Plex and Schlage King Cobra are great examples of single door locking products offering end user simplicity and style in access controlling hardware.

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National Publishing Company

The National Locksmith® ISSN #0364-3719 is published monthly by the National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861. Periodicals postage paid at Bartlett, Illinois 60107 and additional mailing offices. USPS 040110. Subscriptions \$46.00 per year in the USA; \$58.00 per year in Canada; \$72.00 in all other countries. Single copies \$7.00 each. Postmaster, please send change of address to National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861. ©2004 by the National Publishing Company. All rights reserved. Printed in the U.S.A.



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CONTENTS

The National Locksmith®

August 2004 • Vol. 75, No. 8

FEATURES

14 *COVER FEATURE*

Upgrades Mean Better Security And Better Business

For the locksmiths there is a huge potential.



58

Service Vehicle Accessories

Products every service vehicle needs.



22 *COVER FEATURE*

Kaba Access Control E-Plex 5000

Lowrance school finds solution to access control challenges.



68

Master's Resettable Combination Lock

Something new for an old standard.



26

2002 Ford Explorer, Part 1

Featuring the Passive Anti Theft System (PATS) transponder system.



70

Tripp-Lite Power Inverter

How to install a power inverter.



36

PRO-LOK Exposed

Examples from, "The Best Damn Car Opening Manual Period!"



84

Gardall Key Operated Safe Door

Making lock modifications for the situation.



44

ISC East Showstoppers

Over 400 exhibitors showcasing their state-of-the-art security solutions.



106

1999 Kawasaki Police 1000, Part 1

Seat lock service.



54

Aluminum Door Repair Kit From GKL

Plugging unsightly Adams Rite holes.



DEPARTMENTS

5 Commentary

6 Mango's Message

8 Letters

10 Security Cafe

40 Biz Wiz

66 The Hinge R/X

78 Beginner's Corner

82 The Lighter Side

98 Technitips

111 Business Briefs

112 Thru The Keyhole

118 Test Drive



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COMMENTARY



Locksmiths on both sides of crime

Couple faces charges for NOT calling a locksmith

Some people will go to any lengths to avoid a locksmith service call.

Instead of a big catch, the lure of a fishing pond landed John and Mary Hale in the Whitley County jail Tuesday afternoon.

The Hales are each charged with neglect of a dependent when they were aware that their nine-month-old grandchild was locked in a mini-van and chose to go fishing instead of calling a locksmith or authorities.

According to a report, a caller to the Whitley County, IN Sheriff's Department at about 2 p.m. on Tuesday said that a child had been locked inside a van for more than an hour. When Deputy Tony Helfrich arrived at the scene he found a small child sitting in a car seat. The vehicle was locked and running with the air conditioning operating. Helfrich used his baton to break out a window and get to the child. John Hale, 47 and Mary Hale, 48, were arrested at the scene..

Correction:

In July 2004 we incorrectly stated that HPC, Inc. will carry Marc Tobias' Electronic InfoBase. HPC, Inc. is in no way involved with this product. We regret the error. For more information on HPC, Inc. please visit www.hpcworld.com.

Locksmith charged with defrauding Long Island Hospital

Five people, two of them employees, were arrested yesterday for stealing approximately \$6 million in a fraudulent purchase and billing scheme from the North Shore Long Island Jewish Health System, Nassau police said.

According to detectives the scheme was conducted within the maintenance department of the Manhasset hospital between Oct. 1, 1998, and April 28, 2003. Detectives said they were notified by North Shore officials of the scheme on Oct. 30, 2003.

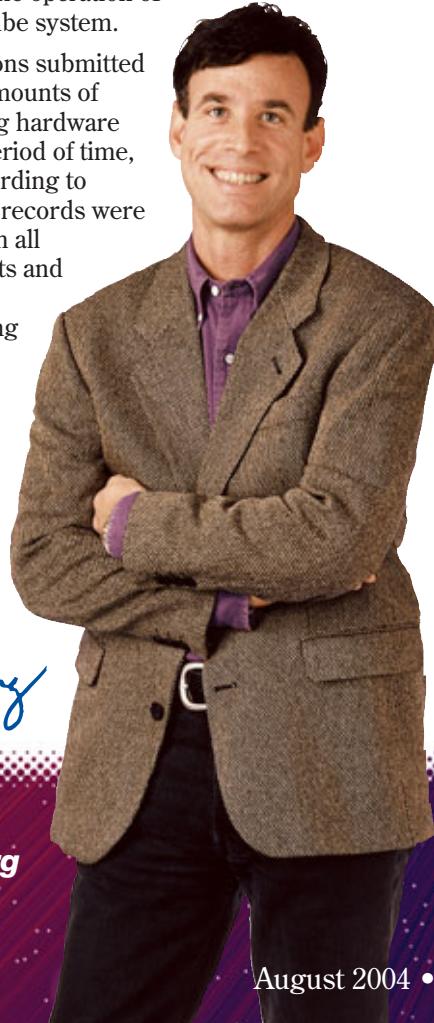
Police say the fraud was discovered by an accounts payable clerk who noticed that invoice

receipts from two vendors did not appear to be valid and notified management.

Four vendors — Brown and Silver Hardware, Yankee Lock, A&E Sales and Tubes Inc. were involved, police said. Police say all of the vendors, except Brown and Silver Hardware, were apparently formed by Roy Brown, 54, and Rochelle Brown, 50, of Grant Lane, Plainview, and Raymond Orlando, of Hill and Tree Court, Melville. Orlando worked for 18 years as locksmith foreman for the hospital but was dismissed in January 2003, said Terry Lynam, a spokesman for the health system.

Police say a maintenance worker or foreman would submit a purchase requisition for the maintenance department for either lock parts or pneumatic tube parts. The request would then be approved by Robert Patrick, 46, of Wiltshire Drive, Commack, the assistant director of maintenance. Phillip Marra, of Louis Kossuth Avenue, Ronkonkoma, was also a maintenance employee responsible for the operation of the pneumatic tube system.

The requisitions submitted were for large amounts of locks and locking hardware within a short period of time, police said. According to detectives, bank records were subpoenaed from all business accounts and a pattern of personal spending was noted along with large amounts of checks made out to the defendants.



Marc Goldberg

Marc Goldberg
Publisher

**Have questions? Want free technical help?
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Mango's Message

Hello, I Need Help?

There comes a time in all our lives when we need a little help, advice, or information. Being in the position that *The National Locksmith* is in, we are looked upon as the embodiment of all locksmith related information since man first rolled a bolder in front of his cave to ward off unwanted intruders. As you can imagine, we receive calls for help, advice, and information every day from around the world. Although we do not promote, or represent ourselves as the epicenter for technical customer service, we try to accommodate those who turn to us for assistance. Sometimes we're successful, sometimes we're not.

Providing customer service for those needing information can, and sometimes does, consume a large part of our day. That means that while I, or someone else is spending the time to research and provide an answer to a given question, I'm not working on getting the next issue of *The National Locksmith*, the *National Locksmith Automobile Association (NLAA)*, the *National Safeman's Organization (NSO)*, the next book or CD out, and someone else is not working on their primary responsibilities. This is good for the person needing information, and bad for us.

With the advent of instant communication via the Internet, and to alleviate our time spent on the phone answering questions, we will often refer (and encourage) those seeking information to the online chat forums to post their question. Usually an answer, or at least a response to the posted question will appear before you know it. We do this not because we do not want to help by phone, it is just an effort to retrieve productive time lost in a very busy deadline driven business. If someone does not have Internet access we do our best to help, however, I can't encourage those enough to get Internet access.

I now do a tremendous amount of research via the Internet, which before I was scanning through newspapers, magazines, and spending time at the library. It was a very tedious, time consuming task. The Internet is a tremendous tool once you navigate your way around, and learn how to use the search engines to your advantage. You would be surprised what you can find, and what you can almost instantaneously learn about with a few clicks of a button, and there is a steady stream of data being added every day.

There is, however, a flip side to the Internet coin. Information can be incorrect, your screen will eventually be inundated with unwanted advertising known as pop-ups, and the harddrive is susceptible to a dreaded bug or virus that can wreak havoc on the system, sometimes destroying programs on your harddrive. Aside from that, the Internet is great!

Then there is *The National Locksmith* library of technical manuals. With many of the questions I field, the answer is in one of our technical manuals. *The National Locksmith* has the largest collection of printed technical information available to the locksmith, nobody else even comes close. *The National Locksmith* also has the largest collection of technical information available on CD, nobody else even comes close. We dominate the marketplace in locksmith related technical material. Surprised? I'm sure some of you are.

What *The National Locksmith* doesn't have, however, is a full time dedicated technical service center. It would be nice, but even then, only so useful. Why? Because 90% of all the information we possess is still in print, not accessible electronically. That's because since the incarnation of *The National Locksmith* in 1929, it has only been the last 10 or 12 years of information that has been saved electronically. Meaning that if someone needs information that pre dated that time frame, we need to manually search through printed material, making it not very efficient or practical. With each passing year, we are tackling the tedious task of converting more and more printed material to an electronic format available on CD. That's one of the ongoing projects here and will be quite some time before all printed material of *The National Locksmith* is accessible at the push of a button. **TNL**



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Locks

It's a Must Have

Let me start by saying that I am a student at Foley-Belsaw. I have received two copies of the magazine and will be ordering it the first of the month. I love the info that gets packed into each issue so it's a must have for me.

I stumbled onto a not so high tech tool that actually works when you are working with disk tumblers. At least it worked for me.

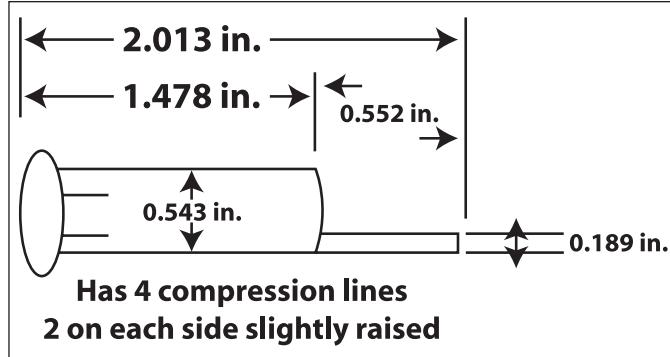
I was having trouble feeling the disc as they reached the shear line. After quite a few tries the frustration started to set in. If I ever learned anything from my uncle, it was that frustration and locksmithing simply don't go well together.

I saw a box of my wife's hairpins sitting at the desk I was working at. It seemed to me like a possibility, so I grabbed a few hairpins and began to create a tool. I stripped the flat end of its plastic tip and made sure it was straight. The crinkled end I bent in half and taped tightly with duct tape. I used enough tape to make a nice little handle, but that was it. I went back to try to pick the lock and found the keyway easier to traverse with my new tool. It was strong enough, but still let me feel everything that was going on in the lock. Not so high tech, but it did work.

Robert G. Dyson
North Carolina

Can't Identify This Lock

Attached are photos and dimensions of a lock I cannot identify. I need to find information so that I may replace it any and all



information on this lock will be greatly appreciated. My e-mail is jhentloc@bellsouth.net and my telephone number is 270-274-4079.

Thank You,

Joe Holland
E-Mail

Sealed Keys

My name is Wilfredo Velez and I'm the owner of Willy Velez locksmith mobile services. I would like to share something that happened to me the other day. A lady called to change the locks at her house after she had a big fight with her husband. When I got to her place she surprised me when she wanted the new keys to be sealed in different plastic envelopes. I told her the locks are new and the box was sealed, but once you open the box the keys are not in a sealed envelope. She was getting me upset because she saw the screws in a sealed envelope and not the keys. She also told me that anyone at the store could remove the key and have a copy. At the end of this she refused to use my new locks and almost hit me when I told her that she had to pay for the service call. To avoid any problems I got in

my van and went back to do another job.

You know what, I believe she was right that the keys should be in a sealed envelop. All this came to mind when I went to my local

hardware store and noticed all the locks that you can buy key alike. All someone has to do is take a good look at the number that appears on the box for keyed alike, get another lock and have the same key as the person that just walked out of the door. In a small city everybody knows everybody if you know what I mean. In my opinion factories should never sell locks keyed alike, it also takes part of our job away.

Willy
E-mail
Indiana

TNL



E-mail Your Views:
natlock@aol.com

Please include your first and last name.

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360

HPC, Inc. Keyable KeKabs

Most places of business and institutions utilize strict procedures to control the access to and the distribution of keys to the numerous doors in their facilities. Key cabinets provide secure storage for keys. However, the cabinets require a separate key which must be carried and controlled to avoid compromising the security of the entire facility. HPC's new Keyable KeKabs eliminate the problem of how to control the key to the key cabinet. This new line of cabinets allows you to add your own mortise cylinder, and key into the existing master key systems.

The Keyable KeKabs are equipped with a heavy-duty lock assembly, and are designed to use standard 1-inch mortise cylinders with an Adams Rite cam. Longer cylinders can be accommodated using spacer rings. The mortise cylinder, keys, and spacer rings are not supplied with this cabinet. These cabinets are available in key capacities of 65, 95 (expandable to 265), and 265 keys. Add convenience and security to the storage of your keys with the HPC's Keyable KeKab®.



Marks USA Grade One Mortise Locks

Marks USA, has now standardized their lock using investment cast stainless for both the latch and deadbolt. The latch is assembled with steel friction proof fingers enabling reduced pressure to close the door. The deadbolt is constructed with two hardened steel pins to resist sawing. By utilizing stainless steel for the deadbolt, the lock will now qualify for use in most prison systems where mortise locks are required. In addition to these lock components, Marks has also standardized the use of stainless steel on most of its commercial knob and lever designs.



Ilco Duplicator for Vans

Inverters and generator power units are considered by many today as "must have" pieces of equipment for the mobile locksmith. The problem, however, is that the higher capacity power units necessary to operate most full size key machines require significant battery power to operate.

Ilco's Performance Series key duplicating machines have robust 1/4-hp motors that don't compromise on a service vehicle's power. Their capacitor start design means that they are suitable for use with many power sources providing as little as 500-600 watts output. An important consideration to consider however is the peak output of the intended power source (inverter or generator) in watts relative to its continuous output rating. Both numbers are typically listed on the specification labels associated with these products. The Performance Series models will work with most power sources having a 475 watts continuous / 800 watts peak output rating, which is far less than many other key machine products.

Performance Series key duplicators include special features not typically found on mid-priced machines, and are available in manual (045), semi-automatic (044), and automatic (040) configurations.



STI Wire Guard for Hubbell lights

Adding to its rapidly expanding line of wire guards for lights and lighting fixtures, Safety Technology International, Inc. is announcing the new STI-9702 Bay Light Damage Stopper(r) Guard. The two section guard that bolts together with screws and nuts provided measures 22.50" (571mm) in diameter and 21.43"(544mm) long. Constructed of tough, 9-gauge steel wire coated with corrosion resistant polyester, it is backed by a lifetime guarantee against breakage in normal use.

The Guard bolts directly to the transformer (not the reflective lens like most other guards) providing more strength to protect the expensive reflector. The design allows for easy light bulb replacement without removal of guard. Easy to install, the STI-9702 offers protection against vandalism as well as accidental damage. STI recommends it for areas where the risk of abuse is severe and it is imperative that these lights continue to operate.



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MagForce™ Electromagnetic Locks by Schlage

IR Security & Safety's Electronic Access Control Division (EACD) has expanded its line of electromagnetic locks with the new Locknetics by Schlage 40 Series and 70 Series MagForce solutions. Designed to meet the needs of dealer integrators, MagForce electromagnetic locks incorporate common templates and other features to make them install easily in any retrofit application. By incorporating the Magnetic Bond Sensor (MBS) standard, these new locks ensure end-user security.

A built-in door status monitor provides positive door position status. The holding force of the 40 Series exceeds 600 pounds while the 70 Series, for which a double magnet is available, has a holding force exceeding 1,200 pounds. MagForce locks also meet the UL one-hour fire-rated standard. They feature a stainless steel canister and provide a lifetime warranty.

Several features, including a common template with other electromagnetic lock brands, make MagForce locks simple to retrofit. The lock provides a one-piece Z bracket for top jamb applications, simplified armature installation and universal header bracket. No armature isolation is required for MBS and the locks provide fully automatic voltage selection for easy connections. A built-in door status monitor (DSM) can trigger an optional in-line automatic time delay module. The new electromagnetic locks also have low amp draws of 300 mA and 250/125 mA. MagForce electromagnetic locks are available now.



Kwikset Ultramax Security

Kwikset now offers Grade 1 deadbolt security in the new Kwikset Ultramax Security line of door hardware designed, produced and distributed for the residential construction and residential home markets. Grade 1 deadbolts provide superior resistance against forcible entry. Extensive testing for strength and durability of Grade 1 deadbolts include kicking, lock picking and attacks with sledgehammers and wrenches. Homeowners are advised to make an extra set of door keys when they secure their homes with the Kwikset Ultramax Security deadbolt because they are highly resistant to violation.

Kwikset offers Ultramax Security line deadbolts in single and double cylinder and on the 800 Series of three handlesets, which feature a titanium-alloy throwbolt core, a 6-pin cylinder with anti-pick pins, and an Ultra-Strike Door Jamb Brace designed to prevent forcible entry.



FannyPak by PakTek

The FannyPak is a tool organizer that comfortably secures those few tools you just can't be without. The internal partitions and tool panel make FannyPak perfect for a myriad of uses. Always having those basic tools close at hand is a real time saver and FannyPak keeps them from spilling unlike clunky old tool belts. Made of durable, abrasion and puncture resistant 1000 denier nylon, the FannyPak is like no other on the market today.



IR Standard 996L Breakaway Lever Trim

A new 996L breakaway lever trim that matches the style of existing Von Duprin lever trim will be provided as standard on Von Duprin 98/99 Series exit devices. The breakaway lever trim significantly reduces damage from vandalism and abuse and is fully ADA compliant. The 996L trim blends two successful Von Duprin designs, combining the 994L breakaway lever trim with the escutcheon plate of the 992L trim style. The breakaway design allows the lever to break away and drop to the 90-degree down position when it is abused or excessive force is applied, which discourages further abuse and protects its internal parts. The lever can be reset easily, without any tools or replacement parts, which can save hours of repair time.

The breakaway trim has been laboratory tested to 500,000 cycles in the unlocked position and to 10,000 break cycles. It incorporates shear pin construction to provide secondary protection to the active mechanism. The forged brass escutcheon shields the trim from impact abuse and case hardened guides provide greater durability. The new 996L trim allows the breakaway function to be added to areas where the earlier trim design had been used for years. The 994L and the 992L trims will continue to be offered as optional trims and must be specified when needed.



PowerLever® PROX 9000 by Kaba Access

The battery-less PowerLever PROX 9000 combines PIN access with prox card technology to provide dual credential access control for up to 3,000 individual user codes. This is the latest addition to our unique PowerLever line of access control products. Easy to use software simplifies user management, and battery-less operation reduces the lifetime cost of ownership, and the hassle of regular lock maintenance. The lock provides access control flexibility with four operational modes—single or dual credential, passage, and lockout—and is compatible with industry leading brands of exit devices. An extensive 23,000 event audit capacity adds security and peace-of-mind.



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UPGRADES MEAN *Better Security* *Better Business*

by Chris Nieshalla

*Marketing Manager,
Electronic Access
Control Division, IR
Security & Safety*

The essential challenge for locksmiths is to maximize their value to the end user. While this was always the case to some degree, it is vital to success today. By improving security, convenience and control for your customers, you can also improve your bottom line. It's a win-win situation. As you move the security solutions up a notch or two, you'll be able to give your customers more peace of mind. At the same time, the products that provide these solutions can open the door to a new and growing source of income.

To see how the solutions fit together, it is possible to organize the key elements of access control into a Security Pyramid (*see illustration 1*). At the base is Level 1 (Mechanical Access/Egress Control), the fundamental mechanical locking system that restricts free access or egress through an opening. It includes the keyed locks and other mechanical products that are the foundation of your business. At this level, security is focused mainly on protection from threats such as theft or vandalism and on providing a physical barrier to intruders and complying with life safety codes; however, if any part of this mechanical base is vulnerable, the higher levels of a system's security can be compromised.

At Level 2 (Electronic Access Control and Key Management), standalone, programmable, battery-powered locks provide greater security through

better control and management of credentials. Patented restricted keyways provide the control over mechanical keys that is necessary for higher security. This is also true for electronic lock systems, which still generally have a mechanical key override. With a patented restricted keyway, key blanks are only available through authorized locksmiths, so keys can't be copied at will.

At the higher levels, things can get more complicated. Level 3 (Networked Access Control and Biometrics) incorporates biometric products that can verify hand geometry, fingerprints or face characteristics to ensure that only persons who actually are authorized can gain access to a particular door. Level 4 (Facility Integration) covers all the previous levels plus additional areas managed by software solutions, such as time-and-attendance systems, personnel scheduling systems, CCTV, and data capture techniques. However, by concentrating on moving end users from Level 1 to Level 2, locksmiths can open new profit opportunities while also promoting significantly better security.

Building on a Strong Base

The repeat business you get from some customers who always need locks rekeyed or cylinders replaced may seem like nice, easy income, but it can get in the way of more lucrative opportunities. The first thing to

Continued on page 16



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4
3
2
1

Level 4 – Facility Integration.

- Management of assets and people
- Total integrated facility solutions including access control, time and attendance and personnel scheduling

Level 3 – Networked Access Control & Biometrics.

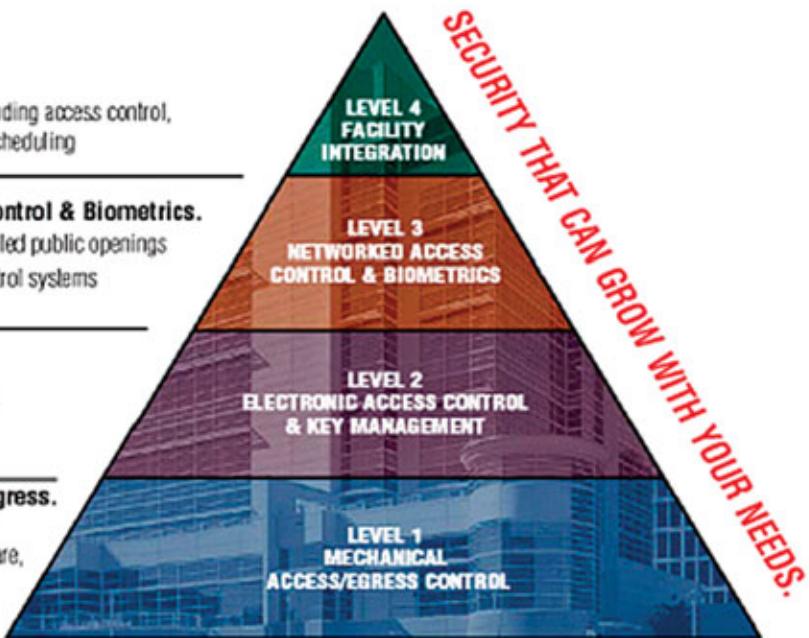
- Management of perimeter and controlled public openings
- Biometrics and electronic access control systems

Level 2 – Electronic Access Control & Key Management.

- Electronic key management systems
- Stand-alone electronic access controlled openings

Level 1 – Mechanical Access/Egress.

- The foundation of an opening — exterior & interior doors, door hardware, mechanical locks, keying systems and portable security



1. Security Pyramid shows the levels of access control. Locksmiths can profit by moving business customers from Level 1 to Level 2 without the need to deal with hard wiring or computer-managed systems.

concentrate on is making sure the customer's mechanical key system is appropriate for the level of security required. Commonplace open key systems may give a false sense of security because duplicate keys are readily available, and lax key control can lead to security problems. Restricted key systems offer somewhat greater security because key distribution is controlled. However, unless the keyway is patent-protected, a "Do Not Duplicate" stamp on the key provides little real protection. With a patented keyway, anyone other than the manufacturer who produces key blanks is in violation of Federal patent laws.

Once you help the customer upgrade to a more secure key system for those areas where keys are required, it's time to help him get away from distributing mechanical keys to everyone or using mechanical pushbutton locks with single, shared and difficult-to-change codes. This is no longer as complicated as it sounds with an electronic system that can be programmed manually.

With electronic locking, the owner can keep the key and give employees or tenants electronic credentials that make it easy to track who has them. If they lose the credential, it is easy to delete their number and issue a new one, and there is no worry about them getting into the wrong hands. When you raise them from Level 1 to Level 2, it becomes very easy for business owners to manage their key control on an ongoing basis.

Until recently, the first step in electronic locking was simply a keypad-operated lock. These are operated by PIN codes, which are suitable for traffic control and areas where security needs are minimal. Mechanically programmable locks of this type are easy to install and use, but they may not provide any more security than a key. In fact, because no one has to go to a lock shop and have a key duplicated, a code is immediately usable. Someone can steal a code by simply looking over a person's shoulder while they punch in the code. A code also may be less secure because, when an employee leaves, most companies don't go back and change their codes. They also are easy for people to share with others, so there is no way to know who actually has them.

The newest versions of manually programmable electronic access locks now are combining the keypad with an electronic credential, such as an iButton (*see photograph 2*). With the iButton credential added to the lock, it now requires both "what you know" (the code) and "what you have" (the iButton). This provides a much higher level of security than either alone. Most importantly, these locks still are manually programmable so you don't have to get into computers and programming tools. They are versatile as well and can be configured for use with code only, iButton only or both, as the application and security needs require. A high-security mechanical key override also is provided, in

Continued on page 18

Mortise Glass Lock from Securitron

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Electronic locking for narrow stile aluminum frame glass doors

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2. Schlage King Cobra is self-contained and easy to install, yet provides both keypad and iButton credentials for more secure access control management.

the unlikely event of a battery failure. Typically, these battery-operated standalone devices have battery life cycles averaging three to four years, using standard AA batteries.

A new opportunity in electronic locking has been created by one manufacturer, which is introducing a narrow stile electronic lock designed for use with a wide range of glass/aluminum doors. Until now, the aluminum storefront market has been largely neglected, making it necessary to use an electric strike and power supply when greater security was required. There was no other way to improve security for the estimated seven million of these narrow stile doors already in the field. The new narrow stile electronic lock is ideal for property management companies with retail storefront properties. It makes it easy for tenants to improve their key control by using iButton fobs or other electronic credentials and also eliminates the need to change out locks when tenants leave. It is actually an electronic trim, it controls existing latches and various manufacturers' exit devices, which makes it unnecessary to change out the locking mechanism. Because it is a standalone, manually programmable lock, no wiring is required (*see photograph 3*).

Building a Better Business

For the locksmith, these units are easy to sell and easy to install. An effective selling technique is to

18 • Visit www.TheNationalLocksmith.com

dollarize them to the customer by showing them how the savings will actually pay for their investment. Small businesses, strip malls, property management firms and similar users still rely heavily on mechanical keys that they give to their tenants or employees. When a key is lost, there is the potential for theft and the cost to have a locksmith rekey the locks or change cylinders on doors. Keeping track of keys can be a managerial nightmare as well as an expense for the customer. For the end user, going to electronic access control makes financial sense.

Installation is easy because no wiring is required, and the locks generally fit standard door preps. With the cost and complexity of installation reduced, the bar is lowered for business owners to improve their access control. Because this type of unit is battery-operated, there is no need to cut and install an electric strike, power transfer, separate card reader or power supply. Installation time and costs are dramatically lower than for hard-wired systems.

For locksmiths who embrace electronic access control at this level, there is a huge potential. Higher up on the Security Pyramid, at Levels 3 and 4, security consultants are selling computer managed and networked systems to larger volume users. For facilities with less than 120 employees, manually programmable electronic locks are both practical and effective.

Although the loss of some repeat business from changing out locks and rekeying might be seen as a negative, the benefits are at least twofold. First, you are turning a \$50 cylinder sale into a \$500 electronic access control sale. Second, the time formerly spent rushing out on rekeying calls can be put to better use expanding into this new area of greater security, both with existing and new customers. There can be further sales opportunities in providing new electronic keys. Beyond the electronic locks themselves, there is also the potential for selling ongoing service contracts to cover areas such as programming, maintenance, annual checkups, battery changes and related services.

Continued on page 21



The world is changing, and security needs are changing. If a locksmith isn't proactive in helping a customer find better solutions, his or her competitor will.

Some companies hold free seminars where locksmiths can learn about these locks and experience them firsthand. One manufacturer actually gives those who attend a free lock that they can use to demonstrate to customers. In one such seminar, a locksmith attended with his 17-year old nephew, who was just starting out in the business. The locksmith challenged the youth to go out and sell at least one per month. At the end of two weeks, he was surprised to learn that the nephew had already sold 17 of the programmable locks.

Here are just a few of the facilities and applications where you can sell these locks:

- Hospitals and Doctors' Offices (Examination Rooms, Storage Closets and Offices)
- Schools (Teachers' Lounges, Restrooms and Supply Closets)
- Universities (Common areas, Lounges, Storage and Utility Rooms)
- Corporate Campuses (Supply Closes, Restrooms, R&D Arease)
- Tenant- Occupied Office Buildings (Offices, Mechanical Rooms)

- Multi-Family Environments (Common Areas, Storage Units, Garage Access, Main Entrance Vestibules)
- Small Businesses (Warehouses, Front and Back Door Entrances)
- Retail Stores (Aluminum Store Front Doors, Employee Only Areas, Changing Rooms, Back Door Access)

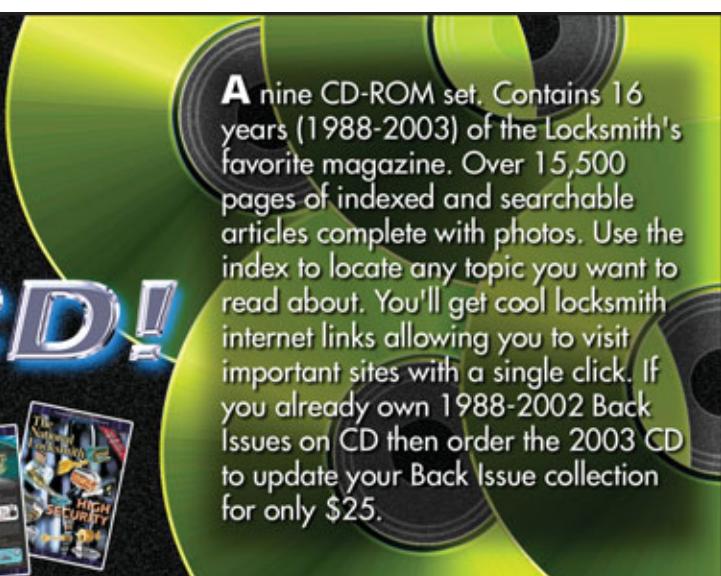
Throughout the process, as you grow your business in this direction, it is important to dollarize the results and show business owners how they can save money, improve security, and minimize recurring costs like cylinder changes and rekeying. As you begin to take advantage of these opportunities, you will find they will pay off in both profits and growth.

For more information contact:

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KABA® ACCESS CONTROL E-PLEX 5000

Lowrance school finds solution to access control challenges.

The Winston-Salem Forsyth County School System is one of the largest in the Southeast, and includes three schools dedicated to special needs children. These schools are responsible for educating the area's physically and mentally disabled children in accordance with Federal and State regulations and standards. One of the most important priorities in these institutions is security – particularly with regard to the medical records that are kept on site. The security of these records has been the subject of Federal legislation during the past ten years, including HIPPA, and The Medical Records Confidentiality Act, which both took steps to ensure the privacy of the subjects of the records.

The Lowrance School in downtown Winston-Salem is unique, in that it maintains case files for its students, in addition to countywide records of all students requiring physical therapy. This creates two access control challenges: only select teachers and a Case Manager at the school may access the records of Lowrance School, while only county physical therapy employees can access countywide records. In addition, the county employees are transient, moving among schools throughout the county during the day, based upon each school's particular needs. They come and go at irregular intervals, providing them with multiple keys to multiple schools can create a nightmare for any security manager.

The Lowrance School has recently discovered the solution to these access control challenges in the E-Plex 5000 by Kaba Access Control. The E-Plex 5000 is an electronic lock that builds on the ease of use and convenience of Simplex® mechanical pushbutton locks, and combines it with the enhanced functionality of an electronic lock. The end result is a lock that proves an electronic lock can be easy to install, easy to manage, and easy to use.

Principal Ron Caviness decided to use the E-Plex 5000 on both medical records rooms in the school.

The E-Plex 5000 provides the additional security of multiple user access codes, and it eliminates the hassles of key management.

Managing the E-Plex requires only that the lock manager assign users an access code. Users can be added and deleted in seconds. When a physical therapist forgets a code, the code is simply deleted and a new code assigned. When an employee leaves the school system, there is no need to collect keys, and no potential need to re-key.



The Kaba-Access Electronic E-Plex.



The E-Plex used in schools to eliminate key control.

Overcoming Key Issues

Principal Caviness discussed key control as an ongoing issue in public schools. He noted, "When someone loses a key, you have two choices: you can re-key the entire facility, or you can sit back and hope that the person who finds the lost key doesn't want to cause trouble in your school."

If the budgeting concerns of public schools were not a factor, Principal Caviness said he would re-configure the entire school to E-Plex 5000 locks, because they give him the ability to easily replace codes and users. Replacing a lost key is much more involved, and for institutions that operate without a locksmith on staff, can be very expensive.

E-Plex 5000 Features

The E-Plex 5000 is loaded with features, many of which are directly applicable to the Lowrance School. Americans with Disabilities Act compliance is a great advantage at a school that is subject to Federal and State regulations relating to special needs education.

Multiple user codes are also a big plus. The user groups at the school can grow significantly, as each lock accommodates up to 100 individual access codes. If each code is assigned to a group of users, the number of potential users is virtually unlimited. A Service Level User is another optional programming level, which allows the user access to a door once, or multiple times over a 24 hour period. This is especially useful for organizations that utilize outside maintenance personnel in their facilities.

Ease of use also stands out as a prominent feature in the Lowrance School. The two lock managers –

Principal Caviness and the school's Case Manager, are not locksmiths or security personnel by trade, but due to limited budgets, they perform these duties on any given day. A system that makes this job more manageable is welcome. Proven durability and reliability are key factors, given the Lowrance School's surroundings. It is classified as an inner city school, which means it is subjected to many security rigors not commonly encountered among suburban schools.

The feedback from the staff at Lowrance School, Principal Caviness, and the county physical therapy employees, has all been very good. Educating special needs children provides one of the greatest educational challenges of the twenty-first century, but thanks to the E-Plex 5000, the security of Lowrance and Forsyth County's medical records for special needs children no longer complicates it.

For more information contact:

Kaba Access Control

2941 Indiana Ave.

Winston Salem, NC 27105

Phone: 336-725-1331 or 800-849-8324

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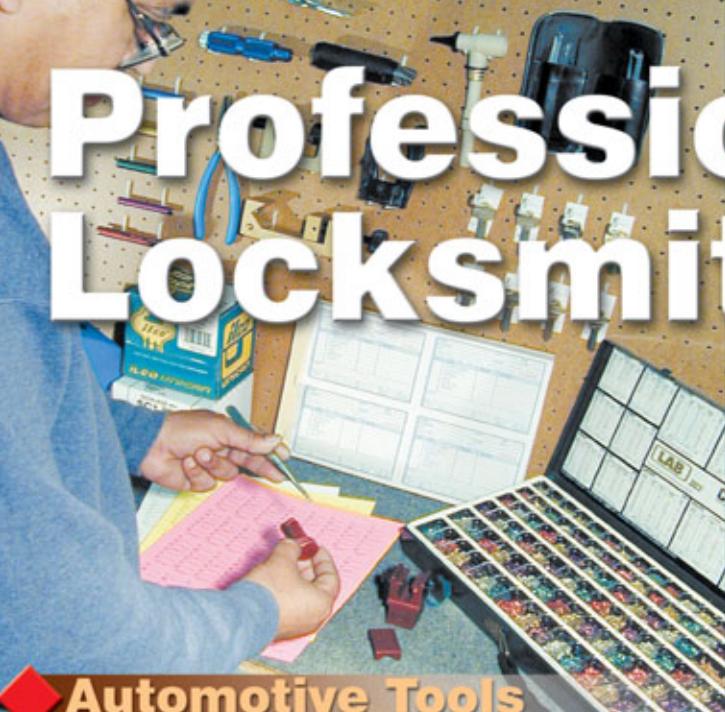
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Automotive Tools

LT115 - The Unlocker

Used to pick the vast majority of after market steering wheel locking bars.

Perfect for when the lock is facing away from you. Simple and easy to use.

LT115P The Unlocker Pick

Replacement pick for LT115.



LT216 - Stramer Remover Tool

Removes the lock plate retainer ring on the GM "Square Column" vehicles.



LT410 - Clip-Zip Door Panel Tool

A must have for the automotive locksmith. Removes clips on the door panel without damage. Separates door panel from door body without damage to panel or clip.



LT450 - Face Cap Removal Pliers

Remove face caps from domestic and foreign auto locks safely and trouble-free.

Just one of this tool's many uses.



LT460 - Window Crank Tool

Slips behind window crank and removes spring clip. Makes manual window crank removal easy and risk free.



LT700 - Standard Impressioning Tool

Impression tool for pin tumbler and wafer locks using a true centerline action. Easy to grip, fits hands comfortably, securely holds the head of the key.



LT740 - Face Cap Clincher Tool

Quickly and easily crimp the tabs on replacement auto lock caps of GM, Nissan, older Toyotas, and others.



Shop Tools

LT1200 - 4 Piece 1200CM Upgrade Kit

Double the speed of the HPC 1200CM key machine with this kit. Contains 1200DP, 1200FG, 1200KS, and 1200SP. Quick & easy 10 minute installations!



LT1200DP - Depth Cam Feed

Moves the key vise from the fully retracted position to the cutting position in 1/4 turn. Why crank the wheel 10 times? Replaces the depth crank handle. Lever handle quickly and easily indexes depth.



LT1200FG - Flip Gauge

With this flip gauge attachment you can gauge the shoulder from the front without risk of injury.



LT1200KS - Key Stop

Set up your 1200 to use either top or bottom without having to adjust spacing. This stop allows parallel top and bottom shoulder alignment. Parallel jaws permit bottom shoulder gauging on many keys, saving time and misaligned keys.



LT1200SP - Quick Space

One rotation of the Quick Space is the same as 5 rotations of the factory hand crank. Greater control in faster time.



LT1202 - Lock & Safe Scope

This scope throws a strong beam of light, great for reading wafers and safe work. Made of impact-resistant plastic. Comes with 3 tips, carrying case, batteries, and bulb. Put one in each truck.



LT1202 Replacement Bulb

Replacement bulb for LT1202 Lock & Safe Scope.

LT341 - IC Reykeying Ejector Pin

Pushes caps, springs, and pins into the removable inspection plug or empty plug chamber.



LT342 IC Reykeying Staking Pin

Used on cylinders with chamber caps.

LT300 - KeyCheck™

Ideal tool to train on key blank identification. Forms & holds the keyway on any sample key and allows you to match the right blank every time.

As easy as 1, 2, 3....



LT340 - IC Reykey/Decoder Dump Tool

Several tools in one. Clear chambers and decode. Chamber cap and retainer sleeve staking feature. Holds the key cylinder and provides a place to dump the pins for decoding or disposal. Also acts as a holding fixture for rekeying.



LT371-395 - Follower - Small Pin & Peanut

Diameter=.395
Used for most small pin tumbler rekeying jobs.
Uses include: Corbin small pin, Eagle small pin, Yale small pin and Ilco 'peanut' cylinders and others.



LT371-495 - Follower - Standard

Diameter=.495
Standard rekeying tool with two different end configurations.
Uses include: Arrow, Schlage, Kwikset, Corbin & Russwin, Ilco, Eagle, Lockwood, Sargent, Weiser & others.



LT371-500 - Follower - Rim Cylinder

Diameter=.500 Standard rim cylinder rekeying tool with two different end configurations. Uses include: Ilco, Keil, Eagle, Lockwood, & other rim cylinders.



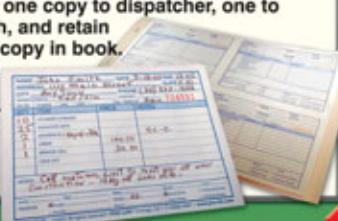
LT371-555 - Follower - Large Oversize

Diameter=.555 Large Diameter rekeying tool with two different end configurations. Uses include: Corbin & Russwin oversize commercial-industrial cylinders and others.



LT430 - Service Call Dispatch Book

Make it easy to track service calls for dispatch and billing. 3-copy NCR with wrap-around cover. Give one copy to dispatcher, one to service tech, and retain permanent copy in book.
200 tickets per book individually numbered.



LT500 - Rhodes Nut Tool

Aluminum tool replaces plastic nut driver that comes with the Rhodes locks. Durable and easy to handle. Ideal for high volume retrofit jobs.
Saves valuable time.



LT605 - The DiskBuster™

Secures disk-style padlocks in a vise to drill the shear line quickly and safely. Clamps onto most brands of disk/circular type padlocks and automatically centers the shear line for drilling. Prevent the possibility of drilling your hand.



LT612 - PadLock Drill Jig

Remarkable drill jig securely clamps rekeyable padlocks to drill for the retainer screw or pin. After cylinder is removed and serviced, padlock can be reused by tapping and inserting screw in hole. (See the optional attachment LT612DG).



LT612DG - Padlock Drill Guide

Used to drill the security nut on the bottom of some padlocks. Adjustable to lock body size. After cylinder is removed and serviced, replace the nut and reuse the lock.



LT705 - Tubular Impressioning Tool

Aluminum impressioning tool for 7-pin center tubular locks. Corrosion resistant aluminum alloy. Attractive blue anodized finish. Use with LT705 file only.



LT705F
Tubular Impressioning File Custom file for the LT705. Cuts on 2 sides, smooth on 2 sides.

LT9505 - Fire Cabinet Lock

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2002

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by
Brook Francisco
National Auto Lock



Introduced in 1990, the Ford Explorer was the first sport-utility-vehicle that successfully bridged the gap between a specialized functional truck and a comfortable versatile family vehicle. Although not the first SUV, the Explorer has been the best selling SUV on the market for nine consecutive years.

The Ford Passive Anti Theft System (PATS) transponder system was introduced on the 1998 model, so a transponder programmer is required for key origination. The 2002 model comes in three distinctive body styles; the two-door Sport model, the pickup truck-SUV cross-named the Sport-Trac and the 4-door traditional model.

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Opening



Upon studying the door panel construction, I decided to use the Air-Wedge and long-reach rod combo. Whenever I need to wedge a door, I always insert a piece of paper between the vehicle frame and the door weatherstripping. This helps prevent the plastic wedge from scratching the vehicle.

Considering that many new Fords have been using the bicycle-cable style linkages that make trying to grab a linkage by going down the door very frustrating and time consuming, I thought it was best. The manual lock/unlock button and inside door handle were located very far down the door, so I decided that my best target was the power lock/unlock button that is located on top of the driver and passenger side door switch.



After having inserted the plastic wedge, I insert the air-wedge below it.

Continued on page 28

The Ultimate Security Gate Latch

LOKK•LATCH® PRO



Patent No. 6513351

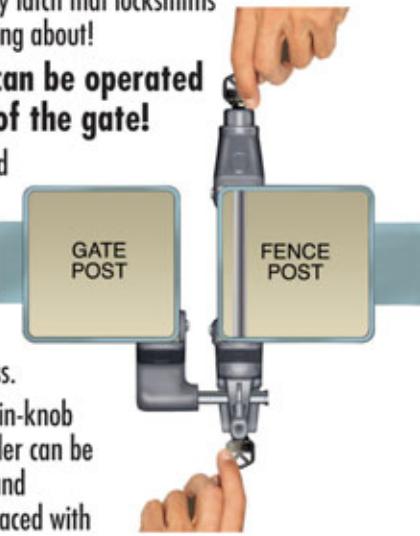
- Can be master-keyed
- Fits metal, wood & vinyl gates
- Limited Lifetime Warranty

Lokk•Latch® PRO is the most sophisticated privacy and security gate latch ever devised. It is *the* privacy latch that locksmiths and security businesses have been raving about!

This quality, patented latch can be operated and locked from either side of the gate!

Lokk•Latch PRO is uniquely constructed to work effectively in both residential and commercial gate applications. The "External Push-Button Access" component fits to the outside (street side) of the gate post to provide convenient, key-lockable access.

It uses a standard 6-pin key-in-knob style lock cylinder. This cylinder can be keyed-alike, maison-keyed and master-keyed, or can be replaced with a high security cylinder.



The Security Lock with Style

The Forté™ Hasplock introduces a new standard in quality commercial and industrial locking security.

Forté HaspLocks (4 models) are designed for all types of storefront, door, gate and storage locking, either as add-on security for existing locks or as primary locks.

Made from 316-grade stainless steel, the Forté Hasplock is particularly ideal for use in marine or other corrosion-prone environments.

Forté Hasplock is highly resistant to hacksawing, levering and oxyacetylene cutting.

Vending machines using
"hinged" models



Gate Security - no padlocks or chains



Patent Pending

Popular add-on for
STOREFRONTS

Model: FHLSSR



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The inflated air-wedge opens a gap in the upper right corner between the frame and the door.



After inserting another piece of paper between the frame and door, the long-reach-rod can now be inserted. I really like this LT-125 reach-rod because it is plastic-coated which gives some extra protection against scratching the vehicle.



With the tool inside the door, all I need to do is hit the power unlock button.

Door Lock Removal and Disassembly



Besides the ignition, the driver side door lock is the only other lock on this vehicle.



Removal of the door panel is needed to access the bolt that holds in the lock cylinder. Wafer positions 2-7 are found in this lock. Strattec part number is 706231.



The first step is to remove the two 7/32" screws at the bottom of the panel.

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- iButton credential reader for high security—electronic chip technology in easy-to-use format
- Full mortise cylinder allows for integration into master key system
- Choose code-only, iButton-only or a combination for maximum security
- King Cobra includes Schlage's Vandlgard™ clutching lever design feature for the toughest environments

Schlage's new narrow stile King Cobra is beautiful to all but the uninvited.

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10

Next remove the plastic trim cover from around the driver side interior door handle. I used a small flat-blade screwdriver to gently pry up on the trim cover.



12



There are three plugs connecting the master switch to the door wiring harness. Disconnect them.

11

After this trim cover is removed you can remove the master switch from the panel.

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Door Lock Removal

13



After removing the master switch, you have access to the one remaining 7/32" screw securing the panel.



15



After the panel is removed, you will have to peel back the plastic cover to reveal the inner workings of the door. The linkage for the manual "lock/unlock" button is not the bicycle- cable style linkage as I expected, but a solid rod linkage. In hindsight, I probably could have used a conventional "L" shaped tool and gone down the door panel to open this car.

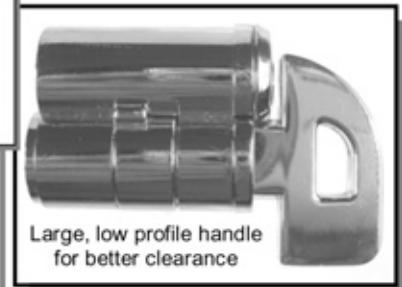
After removing the final screw, the panel is ready to come off. There is one more connector from the door wiring harness to the power mirror control switch, but there is enough wire for the panel to be removed and put out of the way without the need to disconnect this switch. The panel is lifted upward and removed from the door.

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LOCK, inc. T-CORE™

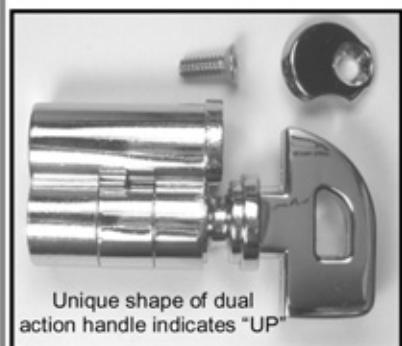
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Unique shape of dual
action handle indicates "UP"

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- ..cabinet lock to convenient thumb latch operation.

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- ..attach to key ring.
- ..leave with contractor as try-out key.
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16

The door lock is held in place with one 11mm bolt.



17

18

After the bolt is removed and the lock linkage disconnected, the lock can be lowered down.

There is a triangular-shaped access hole in the door shell that allows for easy removal of the 11mm bolt.

Continued on page 34

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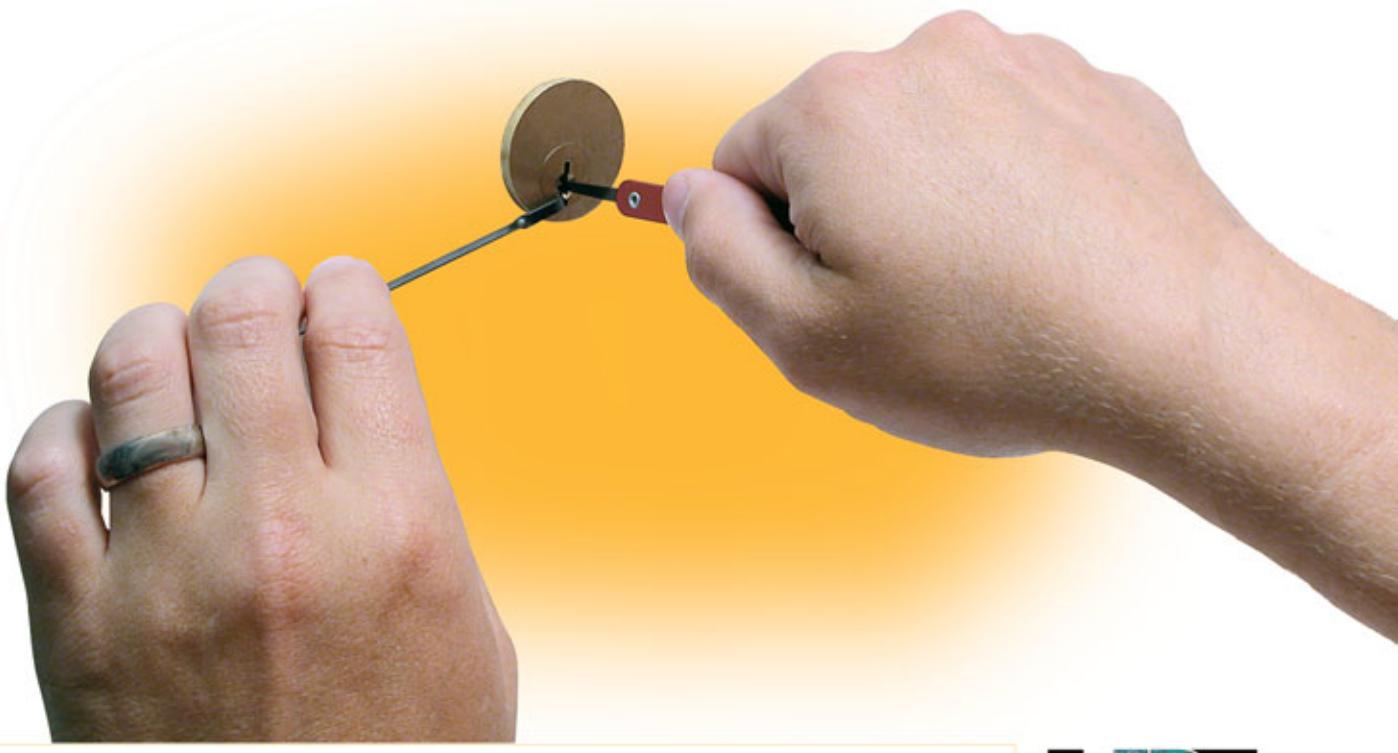
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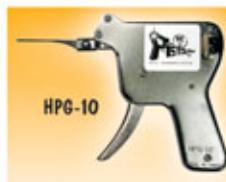
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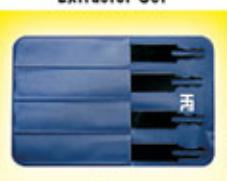
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PSA-20
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Circle 318 on Rapid Reply

19

There still is the matter of the anti-theft alarm switch on the rear of the lock cylinder.

20

I chose to remove the lock tailpiece and remove the switch from the lock, but you could also just disconnect the anti-theft alarm switch connector where it connects to the door wiring harness.



21

Disassembly of the door lock is easy. After removing the tailpiece, the facecap will need to come off. The facecap is held to the lock with four small metal tabs. Pry outward on these tabs to remove the face cap.

22



23

The plug comes out the front of the lock and the face cap can be re-used.



Here are tumblers 2-7.

Nest month we cover the ignition lock and key programming procedures.

TNL

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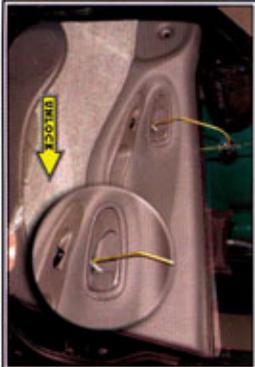
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Car Opening

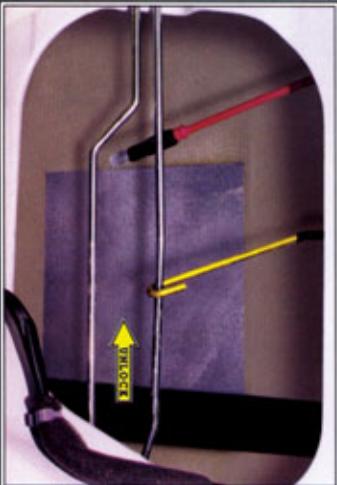
Exposed

Examples from "The Best Damn Car Opening Manual Period!"



ALTERNATE OPENING METHOD

1. Insert a Pump wedge at 16" from the front edge of the window glass at 16" from the front passenger door. Inflate wedge.
2. Insert an AO34 "MCOT-Narrow Tool" at 12" from the front edge of the window glass, tip facing forward.
3. Lower the AO34 13° into the door cavity and rotate it beneath the bottom edge of the window glass. Deflate wedge.
4. Lift the tool, gradually working the tip of the tool into the vehicle interior. Rotate the tool 45° counter-clockwise and position the tip of the tool in front of the inside lock-unlock button. Twist the tool to bind the button.
5. Push the lock-unlock button rearward to unlock the door. (Photo 4)



1. Insert a wedge at 7" forward or the split window divider of the rear passenger door.
2. Insert an inspection light into the door cavity and identify the 2 horizontal rods. The upper rod is the lock rod.
3. Insert the small hooked end of an AO38 "Honda Tool" at 4" forward of the split window divider, tip facing forward. (Photo 2)
4. Lower the AO38 9" into the door cavity. Rotate the tool 45° clockwise. Seat the tip of the tool under the upper horizontal rod. Twist the tool to bind the rod.
5. Slide the horizontal rod forward to unlock the door. (Photo 3)



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PREFERRED OPENING METHOD
Daewoo is a new manufacturer introduced in 1999, discontinued in 2003.



Leganza 01
YEAR: 1999 - 2002
LINKAGE: HORIZONTAL
PICK: CW
TOOL: AO-38
"Honda Tool"

DAEWOO

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Durango 01

YEAR: 1998 – 2003

LINKAGE: HORIZONTAL

PICK: CCW

TOOL: AO-39

"Double Slide Tool"

DODGE

PREFERRED OPENING METHOD

This is a new model for 1998.

1. Insert a wedge at 6" forward of the split window divider of the rear passenger door.

2. Insert an inspection light into the door cavity and identify the 2 cloth covered horizontal rods. The lower horizontal rod is the lock rod.

3. Insert the long end of an AO39 "Double Slide Tool" at 4" forward of the split window divider, tip facing rearward. (Photo 2)

4. Lower the AO39 9" into the door cavity. Rotate the tool 45° clockwise. Lift the tip of the tool to contact the lower horizontal rod. Seat the tip of the tool on the lower horizontal rod. Twist the tool to bind the rod.

5. Slide the horizontal rod forward to unlock the door. (Photo 3)

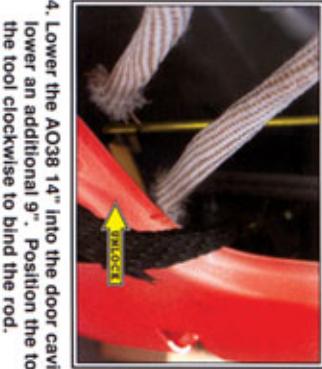


ALTERNATE OPENING METHOD

1. Insert a Pump Wedge at 8" from the rear edge of the window glass of the front passenger door. Inflate wedge.

2. Insert an inspection light into the door cavity and identify the 2 cloth covered horizontal rods located below the outside door handle. The lower/inner rod is the unlock rod.

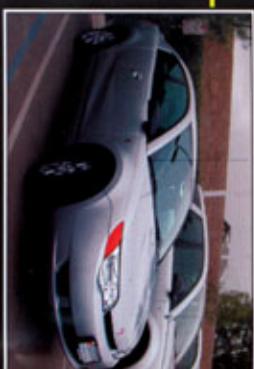
3. Insert the small hook end of an AO38 "Honda Tool" at 2 1/2" from the rear edge of the window glass, tip facing forward.



4. Lower the AO38 14" into the door cavity. Rotate the tool 90° counter-clockwise and the tool clockwise to bind the rod.

5. Slide the horizontal rod forward to unlock the door. (Photo 4)

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Ion Quad Coupe 01

YEAR: 2003 –

LINKAGE: HORIZONTAL

PICK: CCW PAS

TOOL: AO-07

"Astro Tool"

SATURN

PREFERRED OPENING METHOD

This is a new model coupe for 2003. This model replaces the S-Series coupe.

1. Insert a Pump Wedge at 16" from the rear edge of the front window glass of the front passenger door. Inflate wedge.

2. Insert an inspection light into the door cavity at 15" from the rear edge of the window glass and identify the 2 horizontal rods located at 8" below window edge. The upper rod is the lock rod.

3. Insert the hook end of an AO07 "Astro Tool" at 14" from the rear edge of the window glass, tip facing rearward. (Photo 2)

4. Lower the AO07 8" into the door cavity. Rotate the tool 45° clockwise and seat the tip of the tool under the upper horizontal rod. Lift and rotate the tool to bind the rod. (Photo 3)

5. Slide the horizontal rod forward to unlock the door. (Photo 4)



ALTERNATE OPENING METHOD

1. Insert a Pump Wedge at 12" from the rear edge of the window glass of the front passenger door. Inflate wedge.

2. Insert an AO36 "MCOT-Long Tool" at 22" from the rear edge of the window glass, tip facing forward.

3. Lower the AO36 13" into the door cavity and rotate it beneath the bottom edge of the window glass. Deflate wedge.

4. Lift the tool, gradually working the tip of the tool into the vehicle interior. Rotate the tool 45° clockwise and position the tip of the tool over the manual lock-unlock button.

5. Push the manual lock-unlock button forward to unlock the door.

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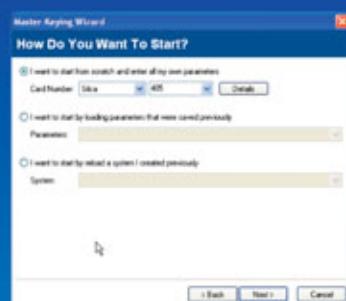
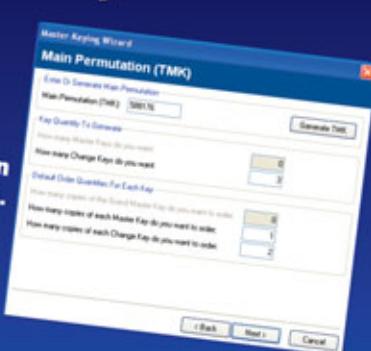
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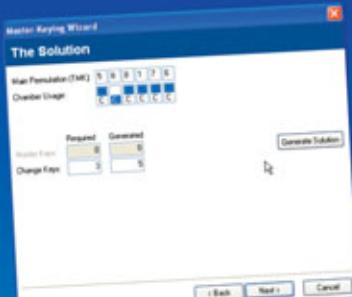


Create a Master Key System, first window.

Main Permutation.



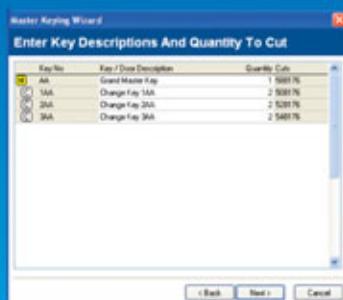
How do you want to start?



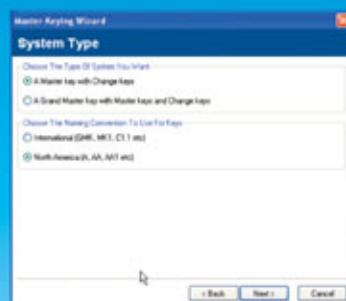
The solution.



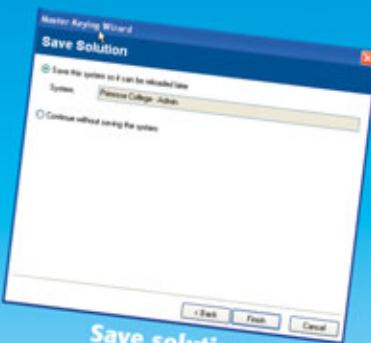
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| Key blank | ✓ | ? | Build a grand master keying system and download it to your electronic machine | ✓ | ? | | | |
| Card | ✓ | ? | Password protection available | ✓ | ? | | | |
| Lock type | ✓ | ? | Sort key blanks into desired order for display | ✓ | ? | | | |
| Search on any combination of criteria | ✓ | ? | Find partial bitting | ✓ | ? | | | |
| DATA | | | | | | | | |
| 6000 series • 2.5 billion codes | ✓ | ? | Progression chart to eliminate wastage | ✓ | ? | | | |
| 99 key blank manufacturers | ✓ | ? | Shows picture of cut key | ✓ | ? | | | |
| Key blank cross reference | ✓ | ? | Stores key hook for each key blank | ✓ | ? | | | |
| Key blank profile pictures | ✓ | ? | Stores client information | ✓ | ? | | | |
| Key blank pictures | ✓ | ? | Stores user notes against each series | ✓ | ? | | | |
| Vehicle opening instructions | ✓ | ? | Supports laser and plunge cut keys | ✓ | ? | | | |
| Transponder programming instructions | ✓ | ? | Your choice of display units (inches or mm) | ✓ | ? | | | |
| Complete ASP catalog with color pictures | ✓ | ? | Select manufacturer, model, key blank, etc from list by typing in first few characters | ✓ | ? | | | |
| Airbag safety instructions | ✓ | ? | PRINTING | | | | | |
| Lock wafer positions | ✓ | ? | Print HPC Cards | ✓ | ? | | | |
| ELECTRONIC MACHINES | | | | | | | | |
| Silca UnoCode | ✓ | ? | Print a whole series | ✓ | ? | | | |
| Silca UnoCode 299 | ✓ | ? | Print the current code and its data | ✓ | ? | | | |
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| Ilco UltraCode | ✓ | ? | Choose letter or A4 size paper | ✓ | ? | | | |
| ITL 9000 | ✓ | ? | THE SOFTWARE | | | | | |
| ITL 950 | ✓ | ? | Cad Cam drawing of key graphically shows depths and spaces | ✓ | ? | | | |
| CodeMax | ✓ | ? | Intuitive user interface | ✓ | ? | | | |
| ECM 200 | ✓ | ? | Live updates from the Internet | ✓ | ? | | | |
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Biz

Secrets of Success

Secrets of Success! That means a lot of different things to people, but I've never known a locksmith to identify it as saving the endangered snails in northwest Afghanistan from extinction. Let's face it, most of us are a bit more self-centered than that. When we think of success, we picture having enough money to enjoy life with those we love in comfortable surroundings—with a fair amount of luxuries, and without the hassle of heavy-duty debt.

That's not so much to ask. The problem is, how do we get there? Legally, I mean. And once there, how do we stay?

Well, that's what this column is about. We're going to look at ways to bring sales up and costs down, keep good records, set goals and achieve them, work smarter, and avoid some of the pitfalls common to many businesses.

First off, let's define a couple of terms so we'll be playing on the same field:

1. "Locksmithing" is what you do after you've convinced a customer to trade with you and before you take his money.

2. "Running your business" is how you bring in the customers, keep them happy while you perform your magic, collect your fees, and deal with the money and paperwork after the job is finished, so you can comfortably survive between jobs.

If you're in this for the long haul, these two factors should be equally important.

You won't learn anything in this column about *locksmithing*, but I hope you'll learn enough about *running your business* to operate more efficiently and profitably, whether you're mobile or in a storefront location.

When you say "success," most people think "money." Then they start making excuses like...

1. It takes money to make money. (Wrong! Money flows TO those who use it well and FROM those who mess up their credit.)

2. You have to be good with numbers to succeed in business. (Who sez? That's what calculators and computers are for.)

3. You need a college education to make money these days. (Nonsense! All it takes is ambition, hard work, and common sense—not necessarily in that order.)

4. All the big money-making opportunities have been taken. (Yeah, yeah! And after WWII, somebody suggested closing the U.S. Patent Office, because there was nothing left to invent! They didn't know about TV, PCs, jet airlines, Saran wrap, space travel...)

You want to know how to *really* make money and be successful? In two little words, "Customer Satisfaction." You should have those

by *Sara Probasco*



words tattooed on the palm of your hand for ready reference. This concept should be reflected in your choice of merchandise, the services you offer, the layout of your store, the way you dress, the way you handle telephone conversations...everything. Ask yourself, "what would please my customers?"

Always listen to your customers. If you hear criticism about the way you wear your hair, change it—at least during work hours. If your customers mention a product they wish you'd carry, consider ordering it. (Then be sure to notify them when you have the item in stock.) Ask them for feedback on your merchandise, your service, your employees. Give them a survey to fill out while they wait. Then act on their comments.

Customer Satisfaction:

Simple, eh? We-l-l, yes and no, but it really is the answer to a vast majority of problems, where *running your business* is concerned. You need to develop a driving desire to provide POS to each and every customer.

"And what," you may ask, "is POS?" Positively Outrageous Service. In his book by that title, T. Scott Gross defined it as "Random and unexpected [service], out of proportion to circumstances, highly involving." He went on to say that when you treat a customer to that kind of super-service, he never forgets. He begins to feel like

"family." He can't help but tell everybody he runs into what a super guy or gal you are, and he encourages them to do business with you, too. You can't beat that kind of advertising!

You see, our problem is, we have a tendency to lose the edge that won us certain customers in the first place. Once they become "regulars," we sort of push them into the back seat and concentrate on bringing in new business. "After all," we tell ourselves, "we don't have to keep proving ourselves to them, do we?"

You bet you do! Legions of lean and hungry people out there are just dying to lure "Harry" right out of your store or off your mobile-call list and onto theirs. You'd better make darned sure he's one happy customer *and stays that way*, or your competition will.

Look at it this way: a lot of people can learn to open a car. Given a choice, why should customers call on you for that service, instead of your competition? Because you're the cheapest locksmith in town? Bad business. Instead, consider becoming the most *expensive*. Just be sure you're WORTH IT!

Do you ever polish the customer's car door after you finish working, to remove your fingerprints? (Try cleaning the other door, too—even if you didn't mess it up—just to even out the shine. That's POS!)

Once in a while, swing by and pick up some Crispy Cream doughnuts or a Starbucks coffee en route *for the customer*. (They're probably feeling a little stupid and a lot irritated over their goof-up). If they don't want it, you can always indulge yourself, later, and they'll remember you kindly for it, either way. (POS!)

I remember one locksmith whose wife owned a chauffeur service. One night, he made a lock-out call in one of her chauffeured luxury limos wearing a tux. Talk about white glove service! Positively Outrageous Service! They won't forget him soon.

In French, it's called *lagniappe* (pronounced lan? yap), this giving

of an extra banana in the bag, a "baker's dozen" (13) cookies instead of the expected twelve, an extra slice of bologna, tossing in a handful of dough-nut "holes" on top of the order, something over and above what's expected or paid for. Customers love it. And they'll love you for it.

Okay, that's enough for now. Quit standing around jingling the change in your pockets, and start looking for ways to offer *your* customers Positively Outrageous Service (POS)! **TNL**

Looking for more in-depth information to help you master "The Business of Locksmithing."? Sara Probasco is now offering a limited number of "encore" presentations of her important full-day seminar to locksmith meetings and conventions across the U.S. and western Canada. For more information, have your area, state, or regional locksmith-association representative contact her at donsara@hilconet.com.

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ISC East is now a two-day event, however, it's two FULL days of the latest and greatest in the security industry. Wednesday, November 3rd, 10am - 6pm (Keynote address begins at 9am) Thursday, November 4th, 9am - 5pm.

Aiphone Introduces Network Video Interface Adaptor

Aiphone Corporation introduces the KCS-IFA network video interface adaptor kit. The kit comprises of a color video door station, network adaptor and power supply. The adaptor allows an Aiphone color video



door station to be connected to a video server encoder (not supplied by Aiphone) and viewed on a PC through a LAN or WAN network. Features of this system include alarm notification, event recording, remote door or gate answering and door release control. This enhanced system will meet those applications that need a large quantity of video door stations and have the capacity of utilizing a local desktop computer.

Alarm Lock's Trilogy® Electronic Lock

Alarm Lock Systems has added the new Trilogy® DL4100 Electronic Digital Privacy Lock to its line. Like Alarm Lock's popu-

lar Trilogy T2 keyless cylindrical lock, the standalone DL4100 uses a modified ANSI cylindrical door prep, for easy installation in about an hour.

Supporting up to 2000 individual user codes (including management and master code overrides), the DL4100 has a unique privacy feature, activated with the push of a button on the back of the lock (inner door, adjacent to the battery compartment). Once the privacy button is depressed, the lock cannot be opened from the front entry side for a preprogrammed duration.

Continued on page 46

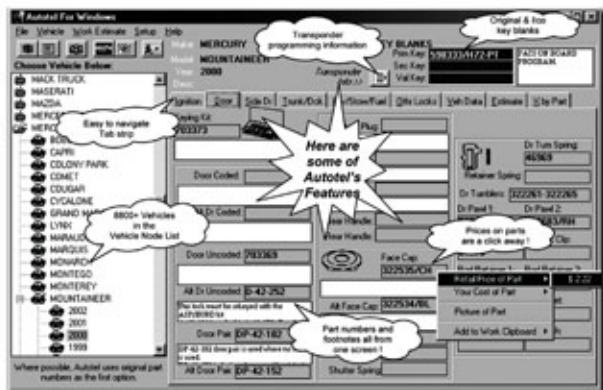




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Architectural Control Systems, Inc.

Architectural Control Systems, Inc. (ACSI), announces a new Series 1500 Electric Trim Control Modification to Von Duprin 9961 Series Trim. The 1560/1570 solenoid controlled trim is ideal for applications that require only lock/unlock function of the outside trim.



Features:

- Modification is field adjustable fail safe/fail secure
- Available in 24VAC/DC or 12VAC/DC
- Low current draw-no special power supply required.
- Mechanical key override
- Free egress at all times
- Provided with 4' wire lead with plug connector. (Wire can be routed through the exit device for ease of installation.)
- Modification maintains the break-away trim design when locked.
- For use with rim, mortise, or vertical rod exit devices.

Models:

- 1560 Fail Safe (Power Lock)
- 1570 Fail Secure (Power Unlock)

Note: The modification is field adjustable for either fail safe or fail secure.

Digital Security Controls WS4939 Wireless Key

The WS4939 incorporates new features and benefits into a sleek design that is compact and ergonomically designed. It uses activation delays for arming and disarming as well as an extended delay for its panic function. An enhanced, integrated LED indicator signifies to the user that a transmission has been sent by the WS4939 to the security system.



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icons and a multi-functional clip – allowing the key to attach to a belt, car visor safety inside a purse – the WS4939 is convenient and user-friendly. Optional covers for the WS4939 are available in eight designer colors – marbled back, metallic blue, wood grain, silver, metallic pink gold, carbon fiber and red – offering the end-user the opportunity for personal expression.

Dortronics Mini-Box Series Switch Consoles

The Dortronics Mini-Box 5236 and 5246 Series Push-Button & Key Switch Consoles are designed to be concealed under a desk or counter, or mounted on a wall to electrically operate entrance control systems,



alarms, electric locks and other devices. Mini-Box units are available in a variety of configurations with push buttons, key switches, toggle switches and LEDs.

The Mini Box Series Push Button & Key Switch Consoles are ideal for controlling single or multiple door access into buildings with electromagnetic locks or strikes. A 5236 Series unit provides push button operation of one to three doors. A 5246 Series unit incorporates a key and up to four push buttons for door and other access control device operations. The key on the 5246 Series can be used for a variety of applications including shunting alarms or resetting delayed egress controls and day/night control of automatic door operators.

Dynalok Delayed Egress Magnetic Lock

Dynalock Corp. has developed the 3101B Delayed Egress magnetic lock, which compen-

sates for sags and misalignments with a simple thumb-wheel adjustment. The 3101B even protects against improper wiring with built-in protection for its microprocessor and circuitry. The microprocessor is field programmable and upgradeable. The 3101B is fully self-contained, so installation requires no external wiring except power.

The combination mechanical/opto-electrical switch is nearly foolproof, offering high



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security 1500 lb. holding force with user-programmable delay, fire alarm contact, bypass and status monitoring. The 3101B Delayed Egress magnetic lock meets all relevant life safety and security codes, including NFPA 101.

IEI Palm Based Communications

International Electronics, Inc. announces the expansion of its popular LS Series battery operated access control locksets. Building on the success of its LS-1 Access Control Lockset, IEI today announced the release of the LS-2 and LS-2P Access Control Locksets. The LS-2 and LS-2P can be managed with IEI's flexible Hub Manager™ Professional access control software using a handheld Palm® device to wirelessly transfer data to and from the units.



The LS-2 and LS-2P have storage capacity for 2000 individual users and provide access level, time zone and holiday scheduling through IEI's HubManager™ Professional software. The LS-2P includes an integrated HID proximity (RFID) reader capable of reading any new or existing HID proximity card.

IR Security

IR Security & Safety's Electronic Access Control Division's Locknetics by Schlage 40 Series and 70 Series MagForce products have common templates and other features, making them easy to install in any retrofit application.



The locks, which have low amp draws of 300mA and 250/125 mA, have a Magnetic Bond Sensor (MBS) and built-in door status monitor to provide positive door position status. The holding force of the 40 Series exceeds 600 pounds while the 70 Series, for which a double magnet is available, has a holding force exceeding 1,200 pounds. MagForce locks meet the UL one-hour fire-rated standard, feature a stainless steel canister and provide a lifetime warranty.

MARKS USA Survivor Series F90 and F92

To answer the challenge of security in today's classroom environment, MARKS USA Custom Lockset Division has developed the "Survivor Series" ANSI/BHMA F90 and F92 Function Locksets with the Clutch Design. MARKS USA has incorporated all of the standard features of the "Survivor Series" with our new ANSI/BHMA F90 and F92 Function Locksets.



F90 – Corridor (MARKS USA Function T) Latch by lever either side unless outside

locked by key or inside push button. Unlock by key, turning inside lever or closing door.

F92 – Service Station Lock (MARKS USA Function TS) Latch by lever either side unless outside locked by key or inside push button. Unlock by key, turning inside lever or closing door, except when slotted pushbutton is in turned in lock position. Inside always opens latch.

Master's Electronic Supply Timesaving Cart

Security system contractors can save time and money with a handy new rolling tool cart holding all tools and hardware necessary for efficient installations. The cart contains all hand tools, connectors, fasteners and mounting hardware for installing access control, alarm and CCTV systems.



And it rolls right to the job location, saving runs to the truck or storeroom.

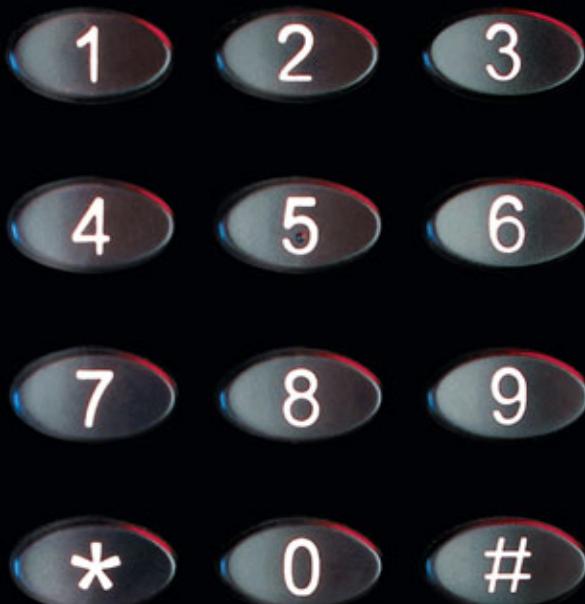
The complete Security Cart contains five kits:

- Tool Kit, with the 10 most-needed hand tools, from crimpers to a digital multimeter, for security installations.
- CCTV Kit, with generous supplies of the 12 most common connectors used in CCTV installations.

Continued on page 50



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Introducing **Access 800™**

Don't settle for the same ol' song when it comes to access control. Corbin Russwin's Access 800 offers more than just a motorized keyless entry system. It's programmable at the keypad or via software for up to 2000 users. Enhanced features include radio frequency (RF) remote control, time zones, user database and prox card.

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- Mounting Hardware Kit, with supplies of the 15 most common parts – including bolt anchors - for wall mounting.
- Machine Screw Kit, with quantities of the 15 most common machine screws, washers and nuts needed in security installations.
- Fuse and Wire Termination Kit, with supplies of the 36 most common fuses, relays, splices and terminations.

RS2 Technologies Easy Access Control Package

Access It® Lite from RS2 Technologies is a user friendly, entry-level, out of the box access control software package, designed from the ground up with ease of use as a cornerstone. The package can have up to 32 readers, access levels and time zones and up to 32 time zones.

The familiar Outlook style interface, along with clever wiz-



ards, results in an operational access control system in minutes instead of hours. Frequently performed operations, such as adding cards and running reports are transformed into simple, step by step tasks through the use of the built in wizards. The package can be easily upgraded to the company's flagship Access It! Software package.

Secura Key Extreme Keypads Introduced

A new line of stand-alone access control Keypads from Secura Key have been designed for extreme conditions. Utilizing the latest developments in piezo switch technology, these products have no moving parts or buttons that can stick or wear out.

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Meeting tough IP68 standards for water resistance and a variety of MIL standards, the Secura Key stand-alone keypads in solid aluminum housings are virtually indestructible. Up to 200 users can be enrolled right at the keypad with no external controllers or computers.

Secura Key offers a 2-by-6-button narrow version for million installations and a 3-by-4-button wall switch model. There is also a recessed-mount flush version of the 2X6 keypad and an illuminated, brass finish version of the 3X4 surface-mount model.

Security Door Controls Mini Delayed Egress Lock

The new SDC Exit Check 1581S Mini Delayed Egress Lock features a small low profile housing that incorporates a 650lb holding force magnetic lock, electronics and subdued alarm tone, while maintaining all the features found in larger delayed egress locks at a more economical price. The Mini Exit Check complies with all national and regional codes for special locking arrangements.

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Features include: choice of activation trigger, exit bar or door movement; 15 second exit delay; selectable manual power-up for California and UBC compliance; and all the inputs and outputs necessary for virtually any monitoring and control need. Applications include minimum security requirements and the control of wandering patients in long term care facilities.

STI Stopper Station

The newest STI Stopper Station button is momentary illuminated and can mount to a single gang electrical box, cabinet or anywhere it is needed indoors. It can be used as a disabled door entrance, general door release, exit door, access control, emergency call or as an emergency power off button.

This versatile button has one form "C" contact rated 10 A



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10-Line

SARGENT's new 10 Line surpasses all competitive products in strength and durability. The unique lock design exceeds Grade 1 requirements. At over 4,000,000 cycles, the 10 Line beats the closest competitor by 30%. As for abusive force, this lock endures more than one and a half times the standard without allowing entry!



If you're looking for flexibility, the 10 Line offers twenty-two different functions and six different lever designs, including Coastal Series decorative designs. The through bolt positions are adaptable to fit almost any door preparation. Best of all, the lock can be installed in one minute or less, making installation as easy as 1-2-3!

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@125/250 VAC and a standard 24 VDC LED bulb. The illuminated button is available in three colors: red (SSR-2007), green (SSR-2107) or blue (SSR-2407) and has "push" inscribed on it. Station housing is molded of super tough polycarbonate available in white and is round in shape.

Simtech Easy-To-Install Intrusion Alarm

Simtech International has introduced the EZ-99 door alarm that because of its extreme simplicity, four operating modes and under \$40 price is an ideal security solution for a wide variety of applications. The new system is a single-point alarm using an electronic touchpad and magnetic contacts and is excellently suited to apartments or condos, which typically have either one or two entry points.

The EZ-99 has four operating modes. With the alarm off, a chime sounds every time a door is opened – no more surprise



entries or exits. The alarm mode can be set for instant-on, generally used when the occupant is home and the system is used for personal protection. The 10-second delay mode protects property when the user is away from home. In either case the EZ-99 will sound a 110 dB alarm.

Trine

The LC 100 Model of the new Axion 3000 Strike Series utilizes an external line conditioner module to regulate voltage for the strikes. The module regulates input voltages, 12-24 AC or DC, and conditions the output for the pull in activation period. It then reduces holding voltage output for continuous operation. It fea-

tures audible buzzers for 12 DC and 24 DC (standard models) and a piezo buzzer for 6 DC power (LC models)

It can be used with the Trine 3458 Strike, which is designed to replace 4-5/8" high strike plates in aluminum frames. It requires only a 2-1/16" frame face cut and it utilizes existing tab holes. Unlike other strikes, the cutout need not be expanded to accommodate 6-7/8" strike which involves 70% more cutting and the drilling of new tab holes.

Videx High-Security CyberLock®

CyberLock is an intelligent lock cylinder designed to convert existing mechanical locks into full-functioning access control systems, without hardwiring. CyberLock permits access for authorized users at specific times on pre-selected days, and provides a comprehensive audit report of all entries.



The CyberLock system consists of the pick-proof CyberLock cylinder, and the CyberKey® that cannot be duplicated. Each cylinder contains a microprocessor and memory and is designed to the exact dimensional standards of mechanical cylinders, making conversion easy in the field. CyberLock cylinders fit in tubular knob sets, lever locks, rim locks, and mortise locks in doors; as well as locks in cabinets, vending machines, cash drawers, transit fare boxes, and in padlocks. Since the CyberLock cylinder contains no battery, it is ideal for indoor and outdoor applications, even in the harshest environments. **TNL**

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Aluminum Door Repair Kit

by GKL



by
Sal Dulcamaro,
CML

In many cases, you just change a malfunctioning lock with its exact replacement and you are back in business. In other cases, you need to replace the lock with a lock of a slightly different function. An example of that is when you replace an Adams Rite flip bolt lock with the latch style lock so that the customer doesn't have to lock the door manually after each person walks out of the building. In that case, the replacement lock pretty much fills the same cavity on

If you do a lot of work with narrow stile aluminum storefront doors, there are probably times that you need to replace the lock hardware.

the door and you don't end up with extra unneeded holes.

Occasionally, you come across a situation where your customer has an aluminum store front door with an Adams Rite lock that has to be refit with a concealed vertical rod device or another type of door hardware. In that circumstance, you will generally locate the new hardware somewhere else on the door. Sometimes you need to install the same type of lock, but just in a different location on the door. I have seen situations where both locks have been left on the door and only the new lock was used. Unless you deactivate one of the locks, there may be a problem with your local Fire Marshall having two locks on the same exit door. In most cases, you will usually

need to remove the old hardware from the door.

After the old lock is removed from the door, you will generally have to deal with some unsightly extra holes in the door. In most cases, the new door hardware won't cover those holes. This would be a good time to have a repair kit to conceal those holes. GKL Products, the maker of the Hinge Doctor tools, has come out with an aluminum door repair kit to help hide those unneeded holes.

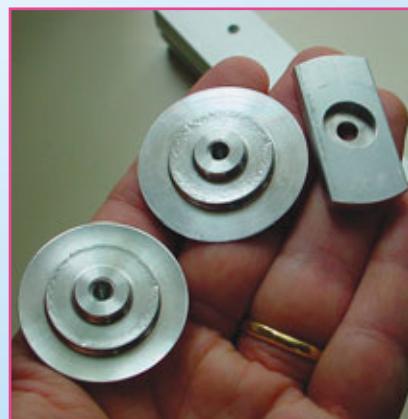
A section from a narrow stile aluminum door shows the holes that would remain after removing an Adams Rite lock (*see photograph 1*). The first version of an aluminum door repair kit



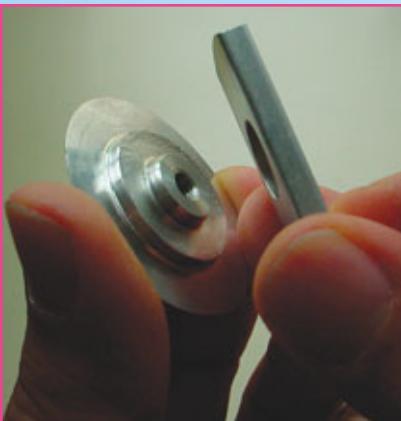
1. Holes that remain after removing an Adams Rite lock.



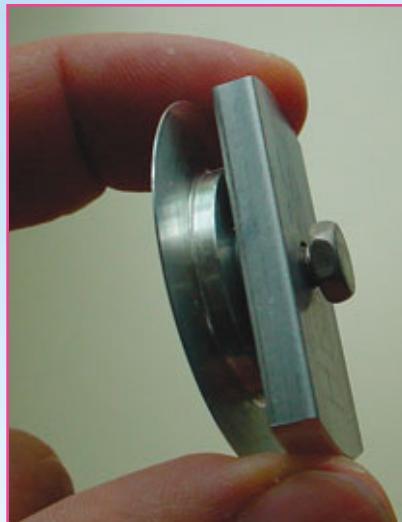
2. Circular cover plates are available in two sizes.



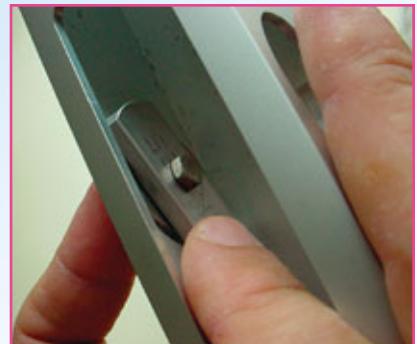
3. Machined so they can interlock with a somewhat rectangular retainer plate.



4. The protrusion on the cover plate mates with the circular recess.



5. A hex head machine screw can be tightened to hold the plate securely.



6. You can position the retainer plate and attach the mounting screw through the edge plate opening in the door.

includes only circular covers plates. These circular cover plates are available in two sizes, with the larger plate on the left (*see photograph 2*). They are machined on the back-side so that they can interlock with a somewhat rectangular retainer plate (*see photograph 3*). The protrusion on the cover plate mates with the circular recess in the retainer plate (*see photograph 4*). When the two parts

are mated, a hex head machine screw can be tightened to hold the plate securely on the door (*see photograph 5*). If you look from a side view, you can see how the round cover plates are cleverly designed. They are very thin on the outer ends of the circle so that they will seat nearly flush on the

door surface where the cylinder was formerly located. They are thicker in the center where they fit into the cylinder hole in the door and where they mate with the retainer. That keeps them rather strong, yet they don't protrude much from the door surface.

It is very easy to install them on a door, and fairly quick. You can position the retainer plate and attach the mounting screw through the edge plate opening

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7. The back-side of the mounted plate.



8. After the plate is installed.



9. The sets of cover plates come in two finishes.

in the door while you hold the cover plate with your other hand (*see photograph 6*). The plate can be moved around a bit so that you can make sure that you completely cover the cylinder hole. There is enough movement possible so that, if you aren't paying attention, you can securely mount the hole cover onto the door and still leave part of the cylinder hole uncovered. There are two sizes, so if you are covering a cylinder hole that was drilled slightly oversized, the larger plate should probably cover it. If you have a very narrow stile and don't want the edge of the circular cover plate to stick out into the glass area of the door, you can use the smaller plate. Both size plates will cover a standard hole.

You can see the back-side of the mounted plate through the cylinder hole on the opposite side (*see photograph 7*). The aluminum door repair kit comes with two circular cover plates to cover both

the inside and outside cylinder holes. It would have been possible to attach the machine screw over the retaining plate through the other cylinder hole, rather than the edge plate hole. You will typically need to install the other plate, with one hole already covered. So, even if you mount one through the opposite cylinder hole, the second cover plate will need to be fastened through the edge plate hole.

After the plate is installed, you end up with a very clean look on the outside (*see photograph 8*). You may have noticed an additional hole beneath the covered hole. This hole is basically square with radii in the corners. This is something you might find when removing a flip bolt lock with the alert indicating if the door is locked or unlocked. You can use one of the circular cover plates to conceal this hole also. Just as in

any other installation, it is possible for screws to work loose over time. If you are concerned about the cover plate working itself loose, you might consider using Loctite or a similar product to lock the threads of the screws. Just make sure that you don't use one of the permanent formulations. You may have to remove the plate somewhere in the future.

The kits come with a pair of circular cover plates and are available in two sizes. The sets of cover plates come in two finishes: the aluminum set shown earlier with the installation and duranodic (*see photograph 9*). An edge plate cover is in the works, plus a number of very interesting installation aids. I will report on any new products, as they become available.

*For more information, you can find GKL Products online at their website: www.hingedoctor.com. You can find distributors by clicking on the link for distributors at the website. You can reach them by phone at: 510/791-0424. Circle 372 on Rapid Reply. **TNL***

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BY ANDREW REILLY
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As service technicians, most of you live a good portion of your life in your service vehicle. And, as a mobile service technician, you know the importance of organization, product stocking, tool efficiency and security. That's where good planning, quality versatile tools, and clever space management is paramount. You can never have too much space or organizational aids, too few tools, or enough security to make sure it doesn't all mysteriously disappear one day.

parts storage with plenty of lockable areas for tools and equipment. Catalog files keep service manuals in order. The locksmith packages also have a workbench, stool, storage for key blanks and even a key machine base.

The finest components, highest-level workmanship, and the most up-to-date technology are integrated into every product Adrian Steel manufactures. Adrian Steel has developed a comprehensive network for

providing equipment and upfits for the locksmith industry. Adrian Steel products are backed by a 3-year/36,000 mile warranty and a network of distributors nationwide. Adrian Steel is your one stop shop for your working van or truck.

American Lock's 2500 Hockey Puck

Tired of searching for the keyhole on a Hockey Puck? Now there is another option.



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Create a mobile workshop for on-site repairs with Adrian Steel van equipment. The Adrian Steel locksmith interior has a wide assortment of drawer units and cabinets. Design emphasizes lots of small

handling all your vehicle needs, no matter how many units you need or where your vehicles will be put to work. More than 300 independent equipment distributors nationwide sell and service Adrian Steel products.

Many of their distributors work with you to provide mobile on-site installation of equipment at dealerships or at your place of business. As a result, Adrian has become an industry leader



The new 2500 from American Lock has a keyhole in the front and a spring-loaded plunger where the key used to be. There are a number of advantages to this new design:

- Front of the lock visibility for the keyway makes it easier to use the key
- Now the cylinder has a hardened plate in front of it for drill resistance
- The cylinder uses stainless steel pins for even more drill resistance
- The spring-loaded locking plunger allows locking without the key
- The user is less likely to break keys by carrying the lock by the key
- Easier to service, no roll pins to drive out to rekey, standard



American cylinder

A cover plate on the back is held in place by five 3/32" hex head screws. When



disassembling the lock to change or rekey the cylinder, it is a good idea to first remove the bolt spring. After that you can remove the cam on the back of the cylinder, and then the cylinder. The plastic sleeve on the cylinder can be slid off and onto another cylinder if desired. The only purpose of the sleeve is to position the cylinder within the lock body.

If desired, the locking bolt may be removed to allow removal of the shackle pin. Note the orientation of the flat on the shackle pin to make reassembly

easier. After reassembly check the operation before locking it onto a hasp.

HPC CodeSource® for the Mobile Locksmith

The computer has become a vital part of practically every business. Most locksmiths could not imagine operating their business without a computer. However, this reliance on computers posed a problem for mobile locksmiths: what to do with their laptop computer in their truck?

As hardware and software technology has improved, and the size of computers has been reduced, Personal Digital Assistants or PDAs have become very popular. These devices allow you to take care of business wherever your business takes you. HPC is the only company to offer a code program for every popular mobile platform: CE,



Continued on page 62

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| No. 5 | Segal 9 |
| No. 5A | Arrow |
| No. 6 | ILCO 1054K |
| No. 7 | Sargent "S" |
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| No. 72 | Yale "GB" |
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| No. 9 | Weslock |
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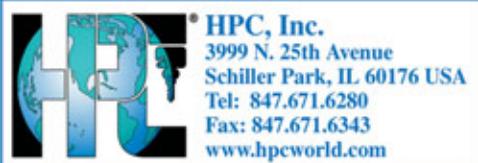
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Over 25 years of proven technology has made HPC's Blitz™ "the Standard of the Industry". Its revolutionary needle-point accuracy earned it three U. S. Patents.

Patent Nos.
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Continued from page 59

Palm, and Pocket operating systems.

Search through millions of codes using the latest computing technology. These versions of CodeSource® include the



complete code database of vehicles, padlocks, and lockshop (furniture, cabinets, direct-digit, etc.) codes. Now you can access detailed key cutting information on a computer that fits in your pocket.

These computers typically include an address book, calendar, to-do list, and more. Some even have a digital camera or cell phone built-in. The Windows-CE based hand-held computers include CE-versions of Word, Excel, Power Point, and other popular programs.

PDAs are a great way to stay connected while on the road. With CodeSource® loaded on your PDA, vital key code information is just a tap away.

HPC Switch Blitz™

The Switch Blitz™, is the perfect machine for the mobile locksmith.



The most common complaint among mobile locksmiths is the amount of space required for key machines in their vans. This inspired the engineers at HPC to combine the best code machine with the best semi-automatic duplicator into the innovative and space-saving Switch Blitz™.

Now in the bench space of 1 machine you have 2 top-quality key machines. The brilliant design and engineering makes the switch from code cutting to

duplicating fast and simple.

The new machine is supplied with an expanded deck of 150 code cards, including all the cards for the latest cars. Additional code cards and adapters are available separately with which various specialty keys can be cut by code, such as standard 7-pin tubular keys, 6- and 8-space Tibbe keys (used on some Ford and Jaguar cars), Medeco keys, and safe deposit box keys.

The motor on the Switch Blitz™ is a custom-designed, high



performance model that provides ample torque for cutting. It is available in 12VDC for use in vans and trucks, or in the combination 120VAC/12VDC when you want to use it in both your shop and vehicle.

The Switch Blitz™ is truly 2 world-class key machines in 1. If you need a machine for your van, the Switch Blitz™ is the best option available.

LAB

LAB steel Universal Pin Kits (#EPK003 shown) and Kit Kaddy (#LKK000) can be mounted as shown in vans.



These kits and Kaddies have two welded on keyhole tabs that make for quick and easy installation on any van surface. LAB also offers a variety of other products, which can be used for your mobile pinning requirements.

Photos supplied courtesy of Calvert Lock & Safe -Derby, CT.

Master Lock "Shackleless" ProSeries® Padlock

Master Lock now offers the Shackleless Round Solid Steel ProSeries® Padlock No. 6270, ideal for securing vans, trucks, gates and vending machines. The Round ProSeries padlock features a 2-7/8" wide body with a 6-pin W7000 cylinder.



This shackleless padlock:

- Defeats attempts to pry and cut, since there is no shackle to use for leverage.
- Features a hardened solid steel lock body that withstands forcible attacks
- Offers a high security 6-pin Pro Series® cylinder to resist picking.

This ProSeries padlock works

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Unmatched services such as Make-to-Order capability, Lock Express™, key charting, custom marking, locksmith training, merchandising displays and other time-

saving systems help make your life easier, and your operation more profitable.

The best is yet to come.

Now American brings renewed vigor to locksmiths everywhere, aided by joining forces with Master Lock during the past year ... with additional resources focused on developing new products and value-added services to further help you grow your business.

Contact your distributor for details as they unfold.



Continued from page 62

with the No. 770 Solid Steel Hasp, which is 9" wide and 4-1/2" high.

This padlock is part of the ProSeries line of padlocks from Master Lock, created to offer the supreme physical security and key security.

The ProSeries line includes solid steel padlocks that are either rekeyable or come with an interchangeable core, iron shrouded padlocks that are available rekeyable, with an interchangeable core or are door key compatible, plus various latches.

PRO-LOK Key Tag System

If you are setting up a new keyboard or are ready to re-organize your board, these key tags will save you hours of research and handwriting blank tags. The key tags; which can also be used behind our *No Spill Key Hooks* if desired, present a professional image to your customers while assisting with inventory control.

These pre-printed tags are clear, easy to read and offer you comparison information between different manufacturers. They are preprinted with key blank manufacturers and their part numbers for re-ordering blanks. Keys are cross-referenced to make finding and ordering the correct key blank very easy.

| | | |
|-------------|--------------|------------|
| BEST | VOLVO | ILC |
| ILC A1114B | ILC X30 | DOM |
| DOM A114B | VDT3S | TAY |
| TAY | NE26 | SIL |
| SIL BES2 | VL4 | JET |
| JET BE2-B | VL4 | ORG |
| ORG TA1B1 | B&S (Blue) | PRO-LOK™ |
| PRO-LOK™ | PRO-LOK™ | PRO-LOK™ |

Their Domestic Key Tag Set includes over 800 tags for residential and commercial keys. Keys are cross-referenced with Ilco, Dominion, Taylor, Silca, Jet

and Original part #'s. Their Automotive Key Tag Set includes over 700 tags to organize foreign and domestic keys. Keys are cross-referenced with Ilco, E-Z, Silca, Curtis, Jet, B&S or other. Their Blank Key Tag Set includes 96 blank tags for you to fill out as needed and their Fluorescent Tag Set includes 96 blank tags printed on fluorescent paper (pink, yellow and orange). These brightly colored tags allow you to highlight keys with special or different pricing.

PRO-LOK No Spill Key Hooks

Having owned locksmith stores and service vehicles, PRO-LOK set out to solve several problems while saving money at the same time. Mobile vans were constantly having key blanks fall off of the hooks while driving over speed bumps or



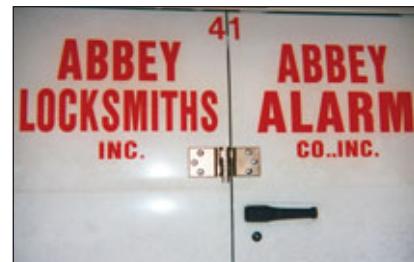
turning corners. The blanks that fell to the floor were either lost or cumbersome to sort and re-hang. The no spill key hooks solved these problems. Never again will you suffer these inconveniences. These key hooks also allow you to color code your keyboard.

The Pliable, durable, colorful no-spill key hooks securely holds 25-30 blanks per hook and won't allow your key blanks to come off until you want them off. Special formula material eliminates breaking and drooping. Use with the Key Tag Systems (Automotive or Domestic) for the ultimate in keyboard organization. There are 100 Hooks per bag. Fits standard 1/8" pegboard. Available in Blue,

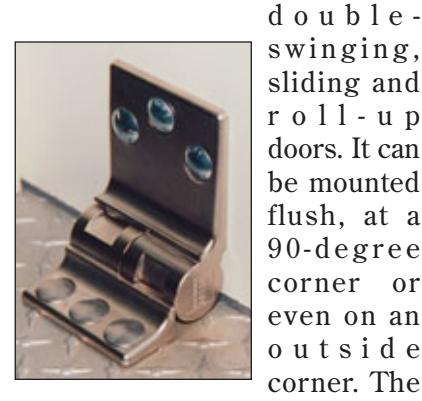
Black, Brown, Red, Teal and White.

Tufloc

Tufloc's Cargo Lock for utility, service and delivery vehicles eliminates the shackle and hasp of traditional padlocks. The device has two interlocking wings made from nickel-plated investment cast 304 stainless



steel. The wings are compatible with a variety of vehicle closures, including inward, outward,



d o u b l e - swinging, sliding and r o l l - u p doors. It can be mounted flush, at a 90-degree corner or even on an outside corner. The

rekeyable Medeco high-security lock cylinder can be keyed different, keyed alike, or master keyed.

The cylinder is built into one of the wings and engages and disengages the bolt assembly. It is strategically positioned near the device's main body and has hidden hardened steel head cross-pins that provide added drill resistance. The bolt head rotates and has a tungsten carbide insert that resists cutting at the locking point. The Tufloc 50 series is perfect for high-security applications, and the 60 series, fabricated from Ilium alloy, meets military specifications. Left and right hand models are available.

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Circle 359 on Rapid Reply

THE HINGE R/X

Q: I have existing frames and I'm in the process of getting new doors to install with continuous hinges, but the frames are not square. By this I mean the frames vary in width from the header to the threshold, in some cases, as much as 1/2". How can I insure my latch clearance, or reveal, will be a 1/8" as required for proper hardware alignment.

A: One option would be to use a "hinge guard" type hinge with the "Adjustastud" fastening system. This fastener will allow as much as 3/8" mobility of the door in the opening so that proper alignment may be achieved at the latch, but yet is concealed by the hinge which wraps and protects the edge of the door. Markar Architectural Products pioneered this system and details can be obtained from the web site at www.Markar.com.

Q: Is it necessary to reinforce my hollow metal frame when using a continuous hinge?

A: As we all know "butt type" hinges require reinforcement for both the frame and door. One of the advantages of using a continuous hinge is that reinforcement is not

necessary for most models. For example, with a full mortise type continuous hinge, the material thickness for most aluminum hinge leaves is, approximately .120 or 1/8" thick for stainless steel it is 14 gauge or 1/16" thick, when this hinge is applied to the frame rabbet you are, in a sense, reinforcing that frame from the out side.

actually make a hole by removing material, are designed to pierce the metal but not remove it. The material left behind piles up on the inside of the hole or "volcanoes" the material, if you will, thus adding to the thickness; this in turn provides more material for the threads of the screw to lock into.

Q: With so many choices how do I know when to use Aluminum, Stainless Steel or Carbon Steel continuous hinges?

A: The characteristics of the opening should dictate the application. Examples of this would be; the location, inside or outside. The amount of traffic it will be subject to. Is it a rated opening or not. All this information should be considered before a choice is made.

Q: What is the purpose of "Tek" screws?

A: Contrary to popular belief, tek screws were not invented to get the installer on and off the job faster. The intent behind tek screws is for the application of hardware to light-gauge hollow metal where thru-bolts, nut-serts, or drilling and tapping are not an option. The tek screw, not to be confused with self-drilling screws, which



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Circle 306 on Rapid Reply

MASTER'S RESETTABLE COMBINATION LOCK

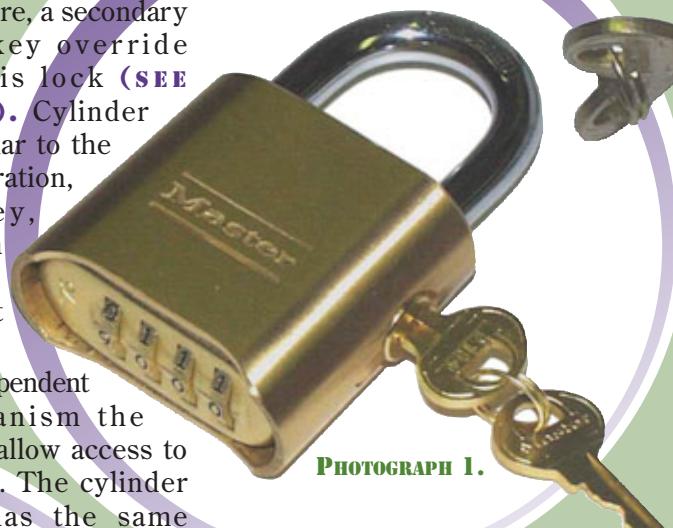
BY BILLY B. EDWARDS, JR.

The old standard is the four digit resettable combination lock. Master Lock Co. has added a new feature, a secondary independent key override cylinder to this lock (SEE PHOTOGRAPH 1). Cylinder operation is similar to the combination operation, turn the key, press down on the shackle and when released it will unlock.

As a totally independent locking mechanism the cylinder doesn't allow access to the combination. The cylinder

has the same specs as used in the number 7 cylinder and can be ordered keyed alike to

any P series code. More importantly to the locksmith is the ability to rekey the override cylinder.



PHOTOGRAPH 1.

In the toe side shackle hole there is a 1.5 mm hex set screw (SEE PHOTOGRAPH 2). Unlike most setscrews, this one must be removed completely (SEE PHOTOGRAPH 3).

Once the setscrew is out, just insert the key, turn and pull. The cylinder will come out of the lock body ready to be rekeyed (SEE PHOTOGRAPH 4).

The end of the plug has an unusual shape that isn't readily accommodated with a follower. It is recommended that rekeying be accomplished through the service holes on the bottom of the cylinder shell.



PHOTOGRAPH 2.

Most distributors and retail outlets are stocking this lock with just a few KA codes, so rekeying is likely to be a popular option and the compatibility of the key with many of the Master gun locks is something end users may find advantageous.

To reinsert the cylinder turn the key, push it into place and replace the setscrew.

For more information contact:
Master Lock Company, Phone: 414-571-5625; Fax: 414-766-6333;
E-Mail: masterlock@mlock.com;
Web: www.masterlock.com. TNL



PHOTOGRAPH 3.

PHOTOGRAPH 4.

For years locksmiths have begged for comprehensive service manuals on motorcycles, and they are finally here! Covering a wide range of service procedures, you'll know everything a locksmith needs to know about each cycle. Plus, you'll get step by step photographs and instructions.



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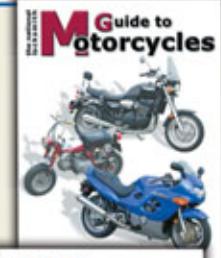
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by John Blankenship

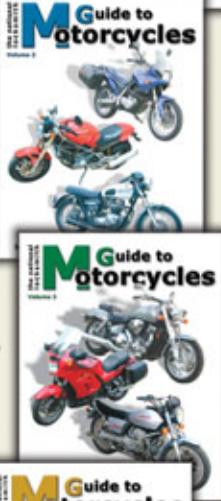
Volume 1 covers...

Key information • Progression Charts • **BMW** 1997 R1100R • **Harley-Davidson** 1938 Knucklehead, 1970 Sportster, 1980 Sportster, 1984 Wide Glide, 1994+ Tubular Ignition Lock • **Honda** 1968 Mini Trail 50, 1970 Trail 90, 1971 CB750, 1978 CB750, 1978 Hawk, 1981 CB900, 1982 Ascot, 1983 Shadow, 1984 Nighthawk, 1985 Rebel, 1990 Gold Wing, 1996 Nighthawk 750, 1996 VFR750 • **Kawasaki** 1980 LTD250, 1985 Ninja 600, 1993 KLX650 Ignition Lock, 1994 Ninja Gas Cap • **Neiman** Steering Lock • **Suzuki** 1986 Intruder, 1990 Katana 600, 1991 GSXR1100 Ignition Lock, 1998 Katana 600, 1999 TL1000R • **Triumph** 1995 Tiger, 1999 Legend • **Yamaha** 1980 650 Twin, 1987 FZR1000 Ignition Lock, 1987 Virago, 1992 Yamaha/Polaris 4-Wheeler Ignition Lock, 1998 V Star Classic, 1998 YZF600R



Volume 2 covers...

Key information • Progression Charts • **BMW** 1976 R90/6, 1989 K100RS, 1995+ Ignition Lock, 1999 F650, Luggage using Y61 • **Buell** 2000 Blast • **Ducati** 1993 Monster • **Harley-Davidson** 1999 Road King Police, 1999 Sportster • **Honda** 1975 CB550 Ignition Lock, 1980 CB400 Ignition Lock, 1983 CB650 Ignition Lock, 1985 Aero Ignition Lock, 1995 Gold Wing Luggage, 1987 250X 4-Wheeler, 1990 NS50, 1992 Shadow, 1994 CB250, 1997 Shadow, 1998 CBR1100XX, 1999 CBR600F4, 1999 CBRX1100XX, 1999 Shadow, 2000 CBR600F4, LIPO 5-cut Ignition Lock, LIPO 8-cut Ignition Lock, • **Kawasaki** 7-cut Code Information, 1980 LTD1250 Ignition Lock, 1983 GPZ Ignition Lock, 1986 ZX600R Gas Cap, 1986 ZX600R Ignition Lock, 1987 EX500 Ignition Lock, 1989 EX500, 1991 ZX-6, New Blank • **Suzuki** 1968 T500, 1981 GS550 Ignition Lock, 1986 GSXR750RG Gas Cap, SM-2 Ignition Lock, SM-4 Ignition Lock • **Triumph** 1970 Bonneville, 1973 Tiger, • **Yamaha** 1980 XS650, 1982 Seca 400, 1982 XV920 Ignition Lock, 1984 FJ600, 1986 FJ1200 Gas Cap, 1989 Riva Jog Ignition Lock, 1990 XT350, 1993 Seca II, 1996 Royal Star, Cruiser Ignition Lock • **Zadi** Q637 Ignition Lock, Q933 Ignition Lock



Volume 3 covers...

Key information • Progression Charts • **BMW** 1999 R1100GS, Luggage using X59 • **Honda** 1975 CB500T Ignition Lock, 1980 CB750 Custom Ignition Lock, 1980 CM400T, 1983 CB450 Nighthawk Ignition Lock, 1985 Big Red, 1987 Elite 250, 1987 Elite 250, 1997 CBR600F3, 1999 Shadow ACE Deluxe, 2001 CBR1100XX, 2001 Gold Wing, 2001 XR100, 2002 VTX1800, Cruiser Ignition Lock • **Kawasaki** 1979+ Ignition Lock, 1982 KZ1000 Ignition Lock, 1986 ZL600 Ignition Lock, 1992 ZX6 Seat Lock, 1995 KLR250 Ignition Lock, 1998 ZX9R Ninja, 2000 Concours, 2001 250R Ninja, 2001 500R Ninja, 2001 KLR650, 2001 ZX12R Ninja, KM-5 Ignition Lock • **Moto Guzzi** 1979 V 50 II • **Suzuki** 1979 GS750 Ignition Lock, 1985 Ignition Lock, 1986 GSXR750, 1990 GSXR750, 1997 DR650, 1999 Savage, 2001 GSXR750, SM-5 Ignition Lock • **Yamaha** 1972 Enduro 100, 1977 Enduro 400, 1978 XS750 Triple, 1982 XZ550 Vision Ignition Lock, 1984 QT, 1989 V Max, 1992 TW200 Ignition Lock, 2002 BearTracker



Volume 4 covers...

Master Index • Key information • Progression Charts • Corrections & Updates • **Aprilia** 2000 Pegaso, Luggage • **Ducati** 1991-2002 Ignition Lock, 1997 Monster, 2001+ Transponder Models, 2002 748 • **Givi** Luggage • **Harley-Davidson** 2002 Ultra Classic Electra Glide • **Honda** 1978 Trail 90, 1981 CB750 Gas Lock, 1984 V65 Sabre, 1986 VF1000R Interceptor, 1988 GT650 Hawk, 2001 VTR100F Super Hawk, 2002+ CBR954/1000 Key Blank, 2002 Metropolitan, 2002 Reflex, Honda 2222-00000 Codes, Honda H Codes, Honda T Codes, • **Kawasaki** 1973 Mach III Ignition Lock, 1980 KZ650, 1980 KZ1000-E2 Seat Lock, 1983 KZ750 LTD, 1995 GPZ1100, 2001 ZRX1200R, KM-2 Ignition Lock, KM-4 Ignition Lock • **Malaguti** 2002 Lock Set • **Moto Guzzi** 1973 V7 Sport • **Suzuki** 1999 King Quad, 2001 SV650S, 2002 GSXR600 • **Triumph** 2003 Bonneville T100 • **Yamaha** 1982 Virago, 1993 FZR600, 2002 FZ1, 2002 Vino



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TRIPP-LITE

POWER INVERTER

HOW TO INSTALL A POWER INVERTER



by **Richard
Allen Dickey**

AC power is the most widespread source of energy available today. You will find it everywhere you go, and from several sources. The power company is the most popular, while generators are probably the most commonly used secondary source of AC power.

AC power is used to run every kind of tool you can imagine, including my favorite tool, the power drill. Many people have turned to battery powered equipment over the years. I have one battery powered drill that I use for small jobs. However, there is no substitute for an AC drill when it comes to power and reliability.

In a service vehicle, you are stuck with 12 Volts DC unless you install an alternative source of power. Some locksmiths install a generator in their service vehicle because they also believe in AC power. They are able to run key machines, lights and other equipment.

I don't like generators because they are large, noisy, smelly, and

require maintenance. There is another alternative and it is a power inverter. It is small, quiet, and very reliable.

The inverter works by changing the 12 Volt DC in your service vehicle to 120 Volts AC. How does it do that? Without getting too technical, it converts 12 Volts DC to roughly 12 Volts AC through a rectifier. Next the 12 Volts AC goes through a transformer to step it up to 120 Volts.

Through this conversion process there is a little bit of loss. So you can compare one inverter to another, inverters have an efficiency rating. The model we will install today is a Tripp-Lite PV 1800HF and has an efficiency rating of 90%. This is a typical rating (*see photographs 1*).

The reason I am pointing this out is because this number is used to help pick the correct size wire for the installation. But before we go any farther, let me tell you a little bit about Tripp-Lite.

In 1922, Graham Trippe, a Chicago-area inventor, obtained a patent for a new precision-focused automobile headlight. This unique design won the gold medal at both the 1928 and 1929 Paris Exposition of Innovation. The Trippe "Speed Light" soon

became a successful automotive accessory. It improved visibility on everything from fine touring cars to U.S. Army tanks during World War II.

As sealed-beam headlights became standard equipment on post-war vehicles, Trippe Manufacturing Company expanded into the production of rotating warning lights. These were sold to many different businesses as well as the police, fire, and ambulance markets. Tri-Lite, the sister company of Tripp Lite, continues to manufacture industrial and specialty lighting products for shipment around the world.

Addressing a newfound need for on-board AC power in ambulances and recreational vehicles,

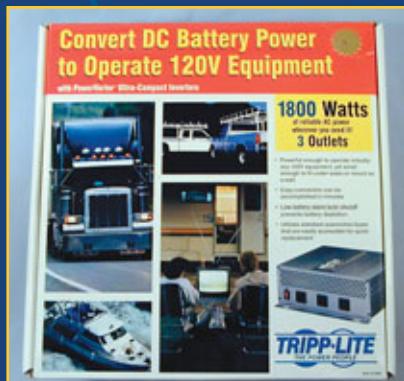


1. **Tripp-Lite inverters are designed for many applications including service vehicles.**

Tripp Lite developed a line of DC-to-AC inverters in the early 1960s. Over the next 20 years, Tripp Lite became known for manufacturing portable inverters, providing portable power for everything from RVs to alternative energy applications (*see photograph 2*).

By 1980, the advent of the personal computer had created a need for battery backup AC power. The idea was to prevent data loss or hardware damage to computers and other sensitive microprocessor-controlled devices. By integrating their proven inverter technology with a battery charger and transfer switch, Tripp Lite became the first company to manufacture a UPS system specifically designed for desktop PCs.

Tripp Lite recently received ISO 9001 certification for the highest



2. This is the PV 1800HF inverter that we will be installing today.



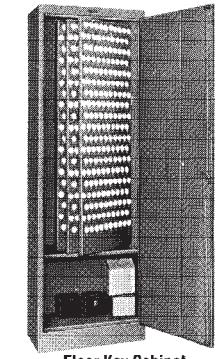
3. The PV 1800HF has three receptacles and a power switch on one end.

standard of design, manufacturing, distribution, marketing and service excellence. Eighty years after it began, Tripp Lite now spans the globe with sales in excess of \$175 million and shipments to more than 85 different countries worldwide.

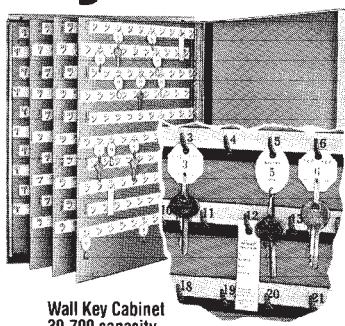
Getting back to the inverter, the PV 1800HF has three receptacles and an on/off switch on the AC end (*see photograph 3*). The DC end of the inverter has the power connection, two fans and six 40 Amp fuses (*see photograph 4*). Why six fuses? Let me show you.

To give you an idea what we are dealing with, I had to remove the cover. Each of the six fuses protects one of the six portions of the inverter (*see photograph 5*). The power output from each of the six sections is combined to provide the

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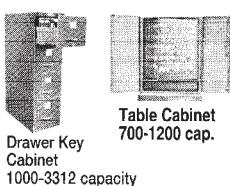
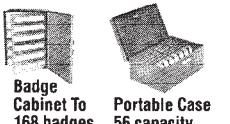


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August 2004 • 71



4. This end has the DC power connection, cooling fans and fuses to protect the unit.

1800 watts (15 Amps) at 120 VAC. This will run just about anything you might haul around in your service vehicle with the exception of an air compressor.

The specifications for the PV 1800HF are as follows:

- Maximum continuous output power is 1800 watts.
- Peak output power is 3000 watts for 0.5 seconds.
- Nominal input voltage is 12 VDC
- Nominal output voltage is 120 VAC
- The output waveform is a modified sine wave.
- Low battery voltage alarm starts at 10.8 VDC
- Low battery voltage shutdown is at 10.0 VDC
- Three AC outlets
- DC overload protection is six 40 Amp fuses.
- Dimensions are 4"x10"x10.5"
- Weight is 7.4 pounds
- 1 year limited warranty

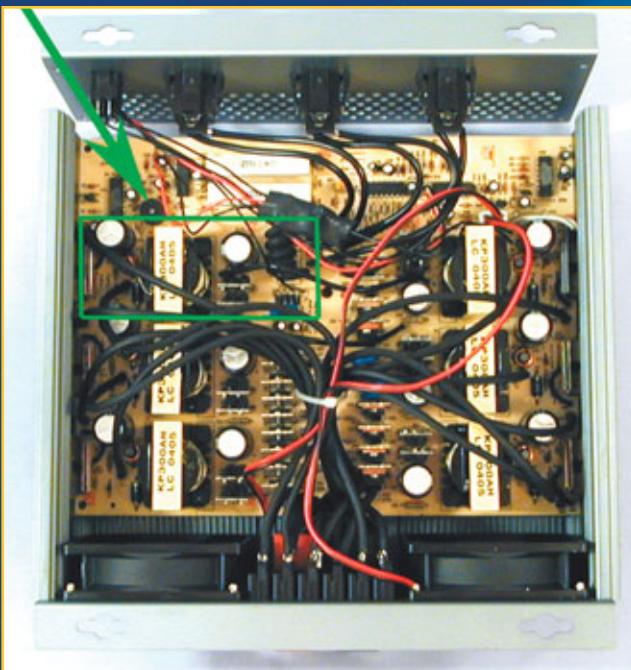
Before we can install this bad boy, we need to figure out what size wire has to be used to connect the inverter to the vehicle battery. Wire size and length of wire is much more important for a low voltage, high current connection like we will be

dealing with here. To stress this point let me give you an example.

The industry standard for allowable voltage drop is 2% from the power source to the load (equipment). A voltage drop is calculated by taking the current and multiplying it by the resistance. It really sounds tougher than it is, and after I give you the example, I will also give you a tool to help you with your calculations.

For this example we will use the same amount of power and the same size wire, but change the voltage to show how voltage drop changes.

The inverter is advertised to supply 1800 watts at 120 VAC.



5. Each 40 Amp fuse protects one of six individual sections inside the inverter.

That comes out to (watts divided by volts) 15 Amps. Because the inverter is supplied by a 12 volt battery, we have to convert these numbers to reflect the supply side of the inverter.

When the voltage is reduced from 120 volts to 12 volts (120 divided by 10 = 12) the current goes up from 15 Amps (15 times 10 = 150) to 150 Amps. Notice that 150 times 12 equals 1800 just like 120 times 15 equals 1800. Its part of that ohms law thing. Voltage times current equals watts.

The resistance of 2 gauge cable is 0.159 ohms per thousand feet. That equals 0.000159 ohms per foot. Multiplying the current (150 Amps) and resistance gives 0.02385 volts of drop per foot of wire. That doesn't sound like much, does it?

Now lets say the inverter will be 8 feet from the vehicles battery. That is 8 feet from the battery to the inverter and 8 feet from the inverter back to the battery.

Continued on page 74

| A | B | C | D | E | F | G |
|---------------------------|-------|---|------|-------|---|---|
| 1 Voltage Drop calculator | | | | | | |
| 2 $VD=IxR$ | | | | | | |
| 3 | | | | | | |
| 4 Current | 150 | | 0000 | 0.05 | | |
| 5 Efficiency | 90% | | 000 | 0.063 | | |
| 6 Resistance per K feet | 0.1 | | 00 | 0.079 | | |
| 7 Total wire length | 16 | | 0 | 0.1 | | |
| 8 Voltage Drop | 0.27 | | 1 | 0.126 | | |
| 9 | | | 2 | 0.159 | | |
| 10 Voltage used | 13.6 | | 3 | 0.201 | | |
| 11 Allowable drop 2% | 0.272 | | 4 | 0.253 | | |
| 12 Your drop is | 1.96% | | 5 | 0.319 | | |
| 13 | | | 6 | 0.403 | | |
| 14 Voltage used | 12 | | 7 | 0.508 | | |
| 15 Allowable drop 2% | 0.24 | | 8 | 0.641 | | |
| 16 Your drop is | 2.22% | | 9 | 0.808 | | |
| 17 | | | 10 | 1.02 | | |
| 18 | | | 12 | 1.62 | | |
| 19 | | | 14 | 2.58 | | |
| 20 | | | 16 | 4.09 | | |
| 21 | | | 18 | 6.51 | | |
| 22 | | | 19 | 8.21 | | |
| 23 | | | 22 | 16.5 | | |
| 24 | | | 24 | 26.2 | | |
| 25 | | | 26 | 41.6 | | |

6. The voltage drop calculator takes the guess work out of calculating voltage drops. It is easy to use and free upon request.

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7. Remove the battery before starting the installation.



8. If you have a newer vehicle, there may be a very good path for wires, already available, if you just look under the mat.



9. The inverter is mounted several inches above the floor to help keep it clean.

The total wire length is 16 feet. What is the voltage drop now? We have 16 feet times 0.02385 volts per foot and end up with a total voltage drop of 0.3816 volts.

To get a percentage of voltage drop we simply divide the voltage drop of 0.3816 volts by the 12 volts that the battery typically provides. That gives us a 3.18% drop in voltage between the battery supply and the input to the inverter.

If we used the same power and wire size, but changed the voltage from 12 volts to 120 volts, what would the voltage drop be?

If you do the calculation correctly, you will see that the voltage drop is only 0.002385 volts per foot or 0.038 volts for the 16 feet of wire. This gives us a 0.0318 % voltage drop compared to a 3.18% voltage drop that we got from 12 volt supply.

The bottom line shows that there is 100 times more voltage drop for the 12 volt supply than there is for the 120 volt supply when the same size wire and the same amount of power (1800 watts) is used. This is why we have to use really big wire for the supply side of the inverter.

Earlier I mentioned the efficiency rating of the inverter and that it would be important in determining the size wire used to connect the inverter to the vehicle battery. This inverter is 90% efficient so to get the full 1800 watts on the 120 volt side of the inverter, even more current has to be supplied to the 12 volt side. 150 Amps divided by 90% equals 166.6 Amps. That's how many Amps will be supplied to the inverter if you are using the full 1800 watts of power that the inverter is rated for.

Now that we have the actual total of Amps needed (166.6) at the 12 volt supply side of the inverter, we can calculate the proper wire size. That is we could go through the calculation process again or simply plug the numbers into a home made voltage drop calculator. This is the tool I mentioned earlier. If you want a copy of it, just e-mail me and I will send it to you. I will give you the address at the end of the article.

The home made calculator is set up to provide results with only the most basic information (*see photograph 6*). It wants to know how much current is required, the efficiency of the inverter, the wire resistance per thousand feet (provided in calculator) and the length of wire you need in feet.

This calculator can be used to calculate voltage drops in many different situations. If you are just checking how much voltage drop there is in a piece of wire, set the efficiency to 100%.

In the example, I entered 150 Amps, 90% efficiency, the resistance of "0" size wire and the length of wire needed. The inverter is going 8 feet from the battery so that gives us 16 feet of wire length.

The top blue portion will tell you exactly what the voltage drop will be. Directly below are two more blue portions. If you enter the supply voltage, it will tell you what an allowable 2% drop is in volts and then tell you what percent your voltage drop is in relation to the supply voltage.

I included two of these sections so I could compare what the voltage drop would be with the vehicle engine running (13.6) and with the engine shut off (12). If you take a close look, it does make a difference.



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A wire size of "0" is required for this installation. If you don't care about calculating wire size yourself, the manufacturer does provide a recommended wire size chart. Why didn't I mention this earlier? Well, I think it is important that you truly understand why it is necessary to use the right size wire for this type of installation. Now let's install this thing!

This was one of the easiest inverter installations I have done to date. Including the time to take photographs, remove interior parts and run wire was less than one hour. Let me walk you through the process.

The first step was to remove the battery from the vehicle (*see photograph 7*). That gave me good access to the fire wall and eliminated the chances of any arcing and sparking. Just in case you didn't know, always remove the negative battery cable first. Why? If the wrench touches the vehicle while you are removing the negative terminal, nothing happens.

If you try to remove the positive battery cable first and the wrench touches the vehicle, you loose your eye sight, suffer a possible concussion and receive second to third degree burns. How does all this happen?

The arc from the wrench touching the vehicle is as bright as a welding arc. So there goes the eye sight. When you jump from the big spark that just blinded you, you bonk your head on the hood. This is where the concussion comes in to play.

What about the burns? Well that's easy. You feel like such an idiot from blinding yourself and putting a knot on your head that you jump at the chance to pick up



10. This mounting location proves to be very convenient.



11. The last step is to cut the cables to length and crimp the proper size terminal lug to the end of the wire.

the glowing red hot wrench before anyone knows you dropped it. Like I said, burns.

If you survive the battery removal process, the next step is to remove the drivers seat. That is, if you are going to install the inverter on the safety cage between you and your tools. In this case it is the closest spot to the battery without getting in the way.

I was lucky enough to find a trough in the floor board with a plastic holder that worked perfectly for running the two power cables (*see photograph 8*).

Next I mounted the inverter several inches above the floor (*see photograph 9*). The reason for mounting the unit above the floor is to help keep it clean. When the inverter is under load, the cooling fans may kick on.

When this happens, whatever is on the floor can end up inside the inverter. I am mainly talking about dust and other little things. A lot of dust and dirt will prevent proper cooling of the unit. With all electronic equipment, heat is the enemy.

After connecting the power cables and reinstalling the seat, you can see that the location is very handy (*see photograph 10*).

Both the power switch and outlets are easy to reach.

The fire wall was another easy step. There was enough room to pass both cables through the fire wall, using the same rubber boot used by the main power distribution cables for the vehicle. The only thing left is to cut the cables to length crimp terminal lugs to the ends and attach them to the battery posts (*see photograph 11*).

An inverter is a valuable asset to have in a service vehicle. I hope that this article has been helpful in showing you the benefits of an inverter, while teaching you a little bit about the importance of using the proper size wire during inverter installations. If installed properly, an inverter will provide many years of trouble free service and make your job a lot easier in the field. Have a nice day!

If you would like more information on this product or any other product from Tripp-Lite you can give them a call at 773-869-1234 or visit their web site at www.tripplite.com. Circle 382 on Rapid Rely.

The E-mail address for the author is rich@dickeybit.com A free copy of the voltage drop calculator is available upon request. Microsoft Excell 97 or newer is required to run the calculator.

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Key Punch Machines



by
Ken Holmlund

One thing there is no shortage of in the tool line for locksmiths is key making machines. They fall into several categories, including manual and automatic duplicators, code machines, computer code machines, high security code machines, and milling machines. I would like to concentrate on a specialty key machine category in this article, that being the punch machines.

Punch machines also fall into a couple of categories: hand held and table top. In the hand-held category, one would find machines such as the A-1 Pak-A-Punch, the Curtis Clipper, and the Ilco Exact Model MK1. The table top category would include the PRO-LOK Blue Punch Machines, A-1's Green Machine and HPC's Code Punch Machine for example. Let's look at these in more detail.

The hand-held machines are probably more common due to their mobility and size. Since they are made for use in mobile situations, they often come in carry cases, and that adds to their convenience.

The first tool I would like to talk about is A-1 Manufacturing's Pak-A-Punch Model 3T (*see photograph 1*). This versatile machine consists of the basic punch that cuts automotive keys,

but has a wide assortment of kits and valu-sets that will allow you to cut many more types of keys including Schlage, Kwikset and I/C with the same tool. You can purchase the punch set up the way you would use it most, and then add the kits later as the need becomes apparent.



1. A-1 Manufacturing's Pak-A-Punch Model 3T.

The basic operation of the Pak-A-Punch is the same as other hand-held models. You have a variety of cams and carriages to hold the key blanks. The depth of each cut is determined by turning the wheel to the desired location and the cut is made by squeezing the lever. The blank automatically advances to the next space and is ready for you to cut the next depth.

A very similar tool is made by Curtis Industries, now a part of the Barnes Group. For many



2. Curtis Clipper number 14.

years the Curtis Clipper number 14, was the standard of the industry (*see photograph 2*). You will still find many diehards that swear by the 14. I include myself in this group. Curtis no longer makes the 14, but the remaining parts and tools were purchased by Hawley Lock Supply in Phoenix, Arizona. They can be reached by calling 800-398-2458 or on their website at www.hawleylock.com.

The tool that replaced the 14 was the Curtis Clipper 15, (*see photograph 3*). Several changes were made between the models including using cams for each type of blank instead of the familiar wheel on the 14. Another big change was the introduction of many new carriages for a variety of applications. The 15 clipper will cut all major cars, trucks, motorcycle, padlock and RV keys.



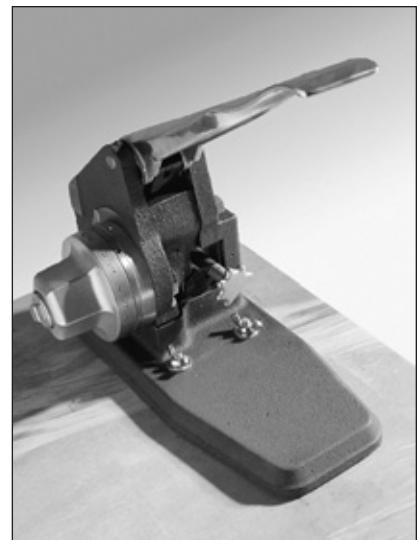
3. The Curtis Clipper 15.

One more feature of the 15 sets it apart from other hand-held machines. You can preset the cuts you need, greatly reducing the possibility of miscuts by eliminating operator error. You can even make multiple copies of the same key without resetting the machine, a definite advantage if you have not written down the cuts you made on the original key.

Ilco's Exacta Model MK1 uses similar technology. The MK1 is set up for automotive cutting.

The MK2 is for commercial uses and they have a variety of kits to make the machine more versatile. It can be made to cut Best/Falcon, Kwikset, Schlage, Dexter, Weiser and Titan keys.

Tabletop machines tend to be a little larger, but are still portable enough to take to a job site if you choose to do so. The first two machines I will discuss tend to be one-dimensional in that they are intended to cut one type of key. The A-1 Manufacturing's Green Machine, model GP201A2 is an example of that (*see photograph 4*). Built to cut Interchangeable Core keys, the Green Machine is fast and extremely accurate. A-1 has made the Green Machine a little more versatile by adding the A3 and A4 system models and the Arrow Flexcore, but the A2 system is by far the most common and will most likely be your main use for this machine.



4. A-1 Manufacturing's Green Machine.

The machine is used by placing the key blank into the front of the machine and turning the knob to apply pressure to the back of the blank. The depth is achieved by turning the dial on the left side of the body to the desired depth, and the cut is made by pushing down on the handle. The key blank will

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5. The PRO-LOK Blue Punch.

automatically advance to the next space. The speed and accuracy of the punch machine is second to none.

PRO-LOK makes a series of punch machines under the label of Blue Punch (*see photograph 5*). The specialty machines include the Arrow Flexcore, Corbin 70, Dexter/Master, Falcon Weiser, and IC A-2 System. A-3 system, A-4 system, Kwikset, Schlage Classic, Schlage Small Format, Schlage Reverse and Weslock.

Each manufacturer of keyway requires a different machine from PRO-LOK and unless you do a large volume in all of those brands, I doubt if you would want to buy all the machines. Again, accuracy and speed are the hallmark of this punch machine. You would be hard pressed to equal the speed and exactness of a punch machine with any other style of key cutting equipment.

The PRO-LOK Blue Punch uses a different method of cutting keys from the other punch machine I have profiled thus far. Two parts are key to their working and they are the carriage for holding the key in place and locating the cuts on the blank, and the depth bar for establishing the depths of each cut. To cut a key, simply slide the blank into the carriage and lock it in place by turning the lever. Now slide the carriage to its start position and you are ready to cut the key. The depth bar is located at the front of the machine and has locator holes for each depth



6. HPC Code Punch Machine 1200PCH.

of cut for each type of key being cut. The depth bar snaps into place then you push the bar down to cut the key. The blank will automatically advance to the next space.

It is this configuration of carriage and depth bar that makes it necessary to have a separate machine for each type of key you need to cut, but it also adds to the accuracy of the keys you are cutting. The machine also includes a built in key decoder that you will find yourself using often.

The final machine I would like to cover is a punch machine with a different tilt. It is the HPC Code Punch Machine model 1200PCH (*see photograph 6*). It is different because it takes the 1200 code machine technology and applies it to a punch machine. It uses cards and different punches to make a wide variety of keys and it is by far the most versatile of the machines I have covered in this article. It comes with 101 code cards and three punches, and also includes Code Source and Interactive Depth and Spacing software. Other code cards are available as is an 84-degree punch for foreign automobiles.

Just like the 1200 machines we are all so familiar with, the 1200PCH uses two cranks to adjust the depths and spacings needed for each style of key. The card serves as the guide for each. Included in the deck of cards are 4-micrometer cards to

allow you to cut keys for styles that may not be included in the cards you own. I find this to be a valuable addition to my 1200 machine and believe it would be the same for this machine.

All the machines I have covered here have a couple of things in common; speed, accuracy and no need for electricity. Each has its advantages and disadvantages. You would need to analyze your needs and desires and chose the machine or machines that will fit your situation.

Most of these machines are available from your distributor but if you choose to contact the manufacturer, their contact information is:

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THE Lighter SIDE

What'd He Say?



In my humble opinion, one of the most important classes NOT being offered in school these days is diction or "elocution," as it was known in the dark-ages of my youth. The art of speaking in public. Whatever you call it, most kids don't pronounce words clearly enough for me to understand them half the time. A lot of adults don't, either.

I remember when I thought it was fun to mute the TV and lip-read the characters' conversations. Now, there's so little lip movement, it's hard to tell which one is speaking, much less what they're saying!

A lot of our customers are just about as bad. I often catch myself having to ask customers to repeat their request several times before I'm sure what they want. Add to that the people who spit their words like machine gun bullets, or mutter under their breath, or speak with an foreign accent—especially over the phone, and it's a wonder we ever get anything right.

Don tells me if I'd have my ears cleaned out or get a hearing aid I wouldn't have these problems, but I notice I'm not the only one.

Besides, it's not just direct conversations. Sometimes there are problems with cell phone

communications. In our area, people calling in for service from the hill country, just to the north, often find themselves in spots where transmission is poor, causing their voices to "break up" at the end of our conversation. This is definitely not conducive to understanding their needs.

Dennis Copeland, owner of Around Town Locksmiths in Brownsville, Texas, recently told us about another kind of communication-problem. The owner of a Honda 4-wheel ATV called one day, asking if Dennis could make a key for it.

"Look at your ignition switch and see if there are any letters or numbers close to where the key enters it," Dennis told him.

In a few minutes, the man called back.

"There were some letters and numbers," the man replied. Then he proceeded to read off, "1GN110N."

Dennis told the man to come to his location and he'd try to have a key ready when he arrived. Then he got into his code program and ran through several groupings of the code number the man had given him. Finally, he brought up a code with the needed cuts. However, he discovered he didn't have the required X265 key blank.

When the customer arrived with the ATV in the back of his truck, Dennis climbed up to take a look, hoping he could find a way to help him after all. On the face of the ignition switch, instead of the code number "1GN110N," which the customer had supplied, was stamped the word, "IGNITION." However, the actual code number was stamped on the lock, clearly accessible, so Dennis was able to cut the key on a blank in his inventory and send the customer happily on his way.

Moral of the story: Even if you understand what they're telling you, the information customers give you may be incorrect.

A few months after a new area phone directory came out that included towns in a fifty-mile radius of Uvalde (and wasn't extremely clear as to what town some of the businesses were in) Don answered a service call that went something like this:

"A-1 Lock & Key."

"Is this the lock shop?"

"Yes. A-1 Lock & Key."

"I locked my keys up in my car. Can you come get it open?" a man asked.

"Sure. What kind of car is it?"

"Green."

"No, what make? Chevy, Pontiac, Ford...?"

"Buick."

"What year model and style?"

"LaSabre."

"What year model?"

"Oh, I don't know, '98, '99."

"And your name?"

"David Johnston."

"Is the car registration in your name?"

"Yeah."

"Where is it located?"

"In the glove box."

"No, I mean where is the car?"

"At HEB grocery store."

"Where are you, in the parking lot? Near the gas pumps, or closer to the front door?"

"Over to the back, next to the Clover Street alley."

"I don't know any street by that name. You're in Uvalde?"

"What?"

"Are you local?" (Pause)
"What town are you in?"

"Yeah, I'm here in town."

"You're in Uvalde?"

"Yeah. Look, how long is this gonna take?"

"I'll be there in about fifteen minutes."

"Okay. I'll be waiting by the car."

Forty-five minutes later, Don came back to the shop. He was not a happy camper.

"I've been all over that parking lot, and there's no green Buick anywhere. I guess he got it open and left."

"You talking about the fellow at HEB?" Buddy chimed in. "That was him on the phone just now, wanting to know where you were. He was hot, said he'd been waiting nearly an hour."

"Well," Don said, scratching his head, "I'll go back and look one more time, but if he calls again, find out where he's calling from and get the phone number. Then tell him to stay by the phone until I call him back."

Sure enough, the guy called back, and we contacted Don with the information. The man was calling from the HEB parking lot, all right, only it was the HEB in Carrizo

Springs, not in Uvalde. That's some fifty miles south.

"I guess you're going to have to get a hearing aid, too," I chided.

He cut a glance my way. Then a smile lit his face.

"No way. Johnston was the one having the problem. I heard him loud and clear from fifty miles away."

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Gardall® Key Operated Safe Door

by Dale W. Libby, CMS



When it comes to safes, people are often more conscious of the cost of a safe and not what it is supposed to protect. We have all seen commercial establishments use Sentry Safes as money chests. We also have seen gun safes used as money and jewelry depositories. Form fits function. If it looks like a safe and has a combination dial or keypad on it, then it is a SAFE, to be used for anything and everything, including data storage.

I have given up lecturing people on the proper use and utilization of safes, unless they specifically ask me. They want the most for their money. The most safe for their money! Not necessarily the most protection for their money. I do not let this influence my pricing however. If a safe is a safe, then safecracking is safecracking. I charge what the specific traffic will bear.

Last week I had three calls from three unrelated people, in three widely separated communities to open Hall

safes. Tragedy always seems to come in threes. I missed out on all three jobs. On two, the cost was too much for them. On the



1. Upper door of a double door over and under depository.

third, the customer had to have the safe manipulated open because his grandmother gave it to him and he did not want it drilled. I wished him good luck. He did not want to spend the money on a manipulation attempt if I did, or did not get the safe open. I told him "Good Luck".

I received an emergency call from another locksmith shop to open a safe that they had sold a

customer. It was a Gardall over and under double door key operated safe. The bottom unit had a combination lock and the upper door had a double key safe deposit type lock that was malfunctioning. The upper door is shown in **photograph 1**. The guard key (the keyway on the right) worked fine, but the renter's key just turned around and around and did not withdraw the bolt. The foot at the bottom of the trunion had broken off. This is a common occurrence with this type of lock in constant daily use.

When the customer wants to know why this happens, I just ask him a few questions that he can easily answer. I tell him that the lock he is using is a safe deposit type lock. If this lock were in a bank, how many times would it be opened in a month if he were using it? He might reply two or three times a month at most. Then I ask him how many times a year that is. He will reply usually 24 to 36 times a year at most. I then ask him how many times a day he opens his lock? When he tells me, I state that he is

giving this lock about 1 year's worth of wear and tear in a couple days time.

People think that locks should work forever. They are machines that need to be lubricated and cared for. No matter how these locks are cared for, they will break under heavy usage. They were not engineered for daily multiple openings under adverse conditions. They are safe deposit locks. I told this customer that he was very fortunate to get 5 years worth of service from this lock. It was time for a new lock! The customer then asked why the lock did not break when the door was in the open position? What fun would that be, I replied?

My friend and editor, Greg Mango, as well as my friend Jim Darow in the production department, want me to show a picture of the entire safe unit. Sometimes this is hard to do because of physical space limitations. But for them, in



2. OK, here is the total safe. The double key ILCO lock has been removed in this photograph.

this case, I was able to snap a picture of both the upper and lower doors of this depository in **photograph 2**. At the time I took this picture the upper key lock had been removed, waiting for me to come back the next day with the proper replacement lock. (Two

service calls, YES!)

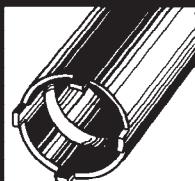
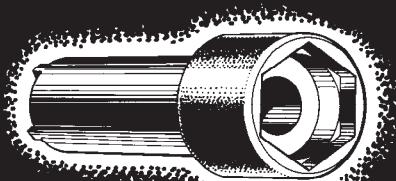
I thought I had a replacement lock in stock and with me. The referral locksmith had told me that the lock was a Sargent & Greenleaf 4440 type lock (which I had) and the safe was a Corporate Safe double door. The safe in fact was a Gardall double door using an ILCO A40 safe deposit lock with a machine screw in the end of the bolt. This I did not have or bring with me. I am not a hardware store on wheels and I gear up for each job specifically.

To open this lock the operation is simple and direct. We just pull the renters nose, pry any offending tumblers down that do not fall below the stump, insert the guard key and move the bolt to the right. The door will open quickly if all goes well. With this door I used a simple nose puller and

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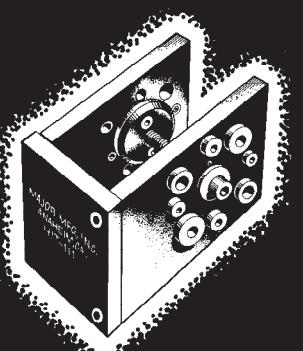
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managed to break the nose of the lock without being able to pull the nose and trunion out (*see photograph 3*).

This poses no great problem. I just inserted a screwdriver in the open space and pried off the casting around the nose that was holding it in place. Usually the nose pulls easily. After the lip was removed I pulled the offending pieces out of the keyway, inserted the guard key and turned it. With a large ice pick I then pulled back the bolt. From start to finish it took about 10 minutes. The owner was happy that I was done so quickly, but he had not seen the final bill yet. Neither had I.

The lock, as well as the relock trigger in this door is held in place by a $\frac{1}{4}$ " sheet of formed steel. This sheet steel was secured to the back of the door by two $\frac{5}{16}$ " bolts located at the top and bottom of the plate (*see photograph 4*). If someone were to try and punch the lock, it would allow the lock to fall into the safe itself and set off the relocker. That is the theory.

I think it would be very hard and time consuming to try and



3. After trying to pull renter's nose with a screw puller, it broke. No problem. Just pop the rim and the inner key guide comes out.

punch this unit. The steel plate is fastened securely to the door. You would really have to punch with a large drift punch to knock the lock and the plate off this door. If by some miracle the burglars did manage to punch the lock and plate off the door through persistence and hard work, two things would stop them from getting the door open.

The first and most obvious roadblock would be the relocking mechanism. This is illustrated in *photograph 5*. This spring-loaded bar is located below the safe deposit lock. There is a handle at the end of the bar that can be hooked and pried away from the opening edge of the



4. Inside cover plate holds the relock mechanism and the lock in place. No separate screws for the lock itself.

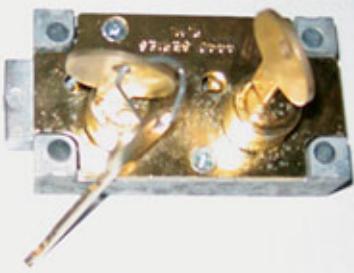


5. The holding plate removed allowing the relock bolt to fire and secure door. Relocker is below the key lock in this unit.

door. This will defeat the relocker, but it will have to be held in the retracted position until the door is open. This can be done, but there is another obstacle to overcome first.

When the lock is punched, the safe deposit lock bolt with machine screw ($\frac{8}{32}$ by $\frac{1}{2}$ " long) will slide away from the massive door lock bolt and disengage from it. The door locking bolt which is $\frac{1}{2}$ " thick, 2" long and $1\frac{1}{2}$ " wide will remain in the locked position. There is a hole cut in the end of the door lock bolt to accept the screw at the end of the key lock. The combination lock on the lower door also uses this type of connection that facilitates the relocking sequence if the lock is punched.

Both the relock bar and the door bolt can be hooked and moved to the open position. This can be accomplished by using a borescope through one keyhole and some sort of hooking tool through the other keyhole. Hard to do (or perhaps hard to do quickly) without using correct optics.



6. The end of the bolt of the S&G (RH) 4440 has been squared off and shortened. Then end of the bolt has also been center drilled and tapped for an 8/32 inch connecting screw.



7. Bolt of the lock has been withdrawn and is flush with the outside of the lock case. Similar to shortening an S&G combination lock bolt when using it in a Mosler application.

I did not have a replacement lock predrilled for the 8/32 machine screw. In fact, I did not have an Ilco lock at all in stock. I would instead modify an S&G 4440 lock to work. There are just a few minor modifications and the S&G lock will work fine. The first modification is the most time consuming.

The end of the bolt on the S&G lock when retracted, does not fit flush with the outside case of the lock. In this configuration, it is important that it does for the door-locking bolt to be pulled back far enough into the door when the keys are turned. Also,

the end of the Ilco lock bolt is square and not tapered. We can accomplish both ends by taking the S&G bolt to a grinder. I shorten it and squared it off at the same time. When done, the bolt is exactly flush with the outside case of the 4440 when the bolt is retracted. The bolt is extended and squared off in **photograph 6** and pulled in flush in **photograph 7**.

A modification like this is also needed when replacing Mosler Group II combination locks with other brands of Group II safe locks. Mosler bolts are flush with the outside of the lock case when withdrawn. S&G, Ilco, and LaGard lock bolts stick out a little from the edge of the case when the bolt is withdrawn. In some instances, for clearance on Mosler situations, the replacement bolts must be shortened for the lock mechanism to

work correctly. On other Mosler applications, the bolts must be lengthened, or adaptor plates attached.

Another small problem is that Ilco locks and S&G locks do not share the same lever tumblers and depths. I could not rekey the S&G lock to fit the old Ilco keys. I imagine if I did have a large parts bin, I eventually could have made the new lock fit the old keys. But, how much simpler for me to issue a new lock with new keys, and make more money cutting additional duplicates of the new keys.

The last thing I did before installing the new lock with the new keys was to drill and tap the end of the S&G 4440 safe deposit lock for the 8/32" machine screw that connected the end of the safe deposit lock to the door bolt. You should try to get the hole in the exact center of the bolt and tap it accordingly. I also used some Lock-Tite to secure the screw in the end of the bolt. Because it was a tight fit, I also filed a little off the upper and lower edge of the screw to allow it to fit to the door bolt much easier when assembling the unit in the safe.

After attaching the back plate to the door, the job was done. Again, there are no individual screws to hold the key lock to the door. This was accomplished by just the back holding/relock plate being secured to the door by the two attaching bolts.

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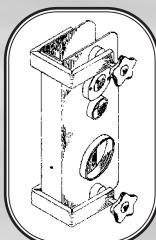
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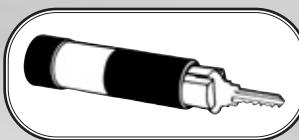
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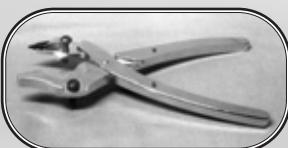
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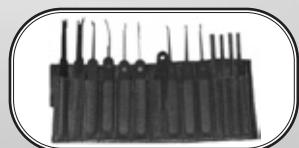
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- WINNER -

Keybox Carrier Tip

If you don't have room for a key tower or pegboard walls in your service vehicle, I have a simple solution! If you don't have a few hundred dollars for those large key boxes that you can actually sit on, I have a simple solution!

All you need are some 2 x 3 or 2 x 4 zip lock type bags and those plastic car carriers for Matchbox/Hot Wheels type cars. Matchbox carrier boxes can hold 50–60 different key types and if you place them in the zip lock bags they won't get mixed up if the box is turned over.

I organize mine by the type, one box for residential/commercial, one for motorcycles and two others for just automotive. I use a permanent marker to put the blank numbers on the lid for easy identification. They don't take up much room and can stack or arrange like books for storage.

*Frank Kitchen
Indiana*

The only way this comes off is when you remove your license plate.

Editor's Note: Jonathan, that brings back memories. It's a good tip and workable. However, I would seriously recommend that where "electronic" keys (transponder's, etc.) that this method not be used unless you first cut the customer a mechanically correct key, with out a transponder or chip. In other words, just enough to get the door open. What I meant about your tip bringing back memories: I used to show folks how to do the same thing. Then all they needed was a coin and they could unloosen the screw and retrieve their "spare" key. Thanks for the tip—keep 'em coming.

*Jonathan Muhammad
Georgia*



- WINNER -

Multiple Determinator Uses

I love using the Determinators. I don't own all of them, but I have found I can make some of them pull double duty. The most recent discovery was on a 2001 Ford Focus which calls for a different Determinator than the standard Ford 8-cut. However, I've found you can still use the standard Ford 8-cut Determinator by adjusting the readings. Using the standard Ford 8-cut to read the Ford Focus, you have to pretend that the #1 mark is actually reading the 2nd wafer and the 1st wafer will trap (if it is a trappable wafer) in the blank area in front of the #1 mark on the tool. Adjust the readings as follows:

Tool mark=Key cut: 0=1, 1=2, 2=3, 3=4, 4=5, 5=6

Once you have determined the door key, progress the ignition cuts as normal.

The Chrysler 8-cut Determinator has come to be particularly handy and is usable on the 7-cut Chryslers from 1993–97. This works on both the Y157 and Y155 key-blanks. Adjust the readings as follows:

Tool mark=Key cut: 2=1, 3=2, 4=3, 5=4, 6=5, 7=6, 8=7

Remember, on most 1993–95 models you are only reading cuts 3–7 in the door, while on most 1996–97 models you are reading all seven cuts.

The Chrysler 8-cut Determinator will also work for me in determining cuts on 1990–92 models using the Y154 key-blank where cuts 1–5 are in the doors by adjusting the readings as follows:

Tool mark=Key cut - 3=1, 4=2,
5=3, 6=4, 7=5

William Kimbley
California



Slick Pick Trick

After receiving a call to a residential lockout, I found the front and rear matching storm doors sporting a profile cylinder, which (wouldn't you know it) were in what we in the U.S. call upside down. Above the PELLA doors' cylinders were oversized levers, which made picking somewhat difficult. Although I was able to pick the cylinder, upon turning the plug nothing happened.

I picked it again in the same direction, and again nothing. I picked in both directions many times and came to the conclusion that the working key must help to turn the cam, which throws the bolt. But, how to get a blank inside the cylinder when the pins are immobilized when they are picked was my dilemma. I pondered using my pick, but didn't want to break it off inside the cylinder and end up worse off than I already was. So I opted for the bump key method, of which I recently learned.

The customer was already somewhat disappointed in the fact that I could not get her right in, and when the bump key method produced an uncomfortable bang near her new storm door, she expressed her concern of damage, so I had to come up with something different.

Just about the time she said "That's not going to hurt my door is it?" I had a light bulb moment. I went to the truck and used my HPC 1200CM to cut a DE-6 down to all number seven cuts, and cut out the peaks as well. I went back to the door and upon picking the

cylinder and turning it a quarter turn, I then slid in my "key" underneath the picked pins, turned the plug the rest of the way and the bolt slid back. I was very happy and the customer gave me a "pat on the back" for not giving up on them. I recommend cutting one now if you haven't run into this yet, and keeping it with your picks.

Jerry Goddard
Indiana

works great and is a little thinner than the factory ones and I don't have to pry the door as much.

Thad D. Schlotterback
Arizona



- WINNER -

Ford Ignition Trick

Whenever I come across Ford Ignition where the ears (or collar) turns without a key I point out to the customer that the problem is caused by the collar coming loose and spinning around the ignition.

I also tell them that it is repairable and (for the most part) they do not need a new ignition. I make this repair with a really neat product I found called Wonderlock EM, which is made by Wonderlocking Corp of Wisconsin Rapids, Wisconsin. I bought mine at Ace Hardware.

The product was originally made to repair loose legs on tables



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and chairs. I found that it does a marvelous job repairing the eared collars on Ford ignitions.

First I remove the Ignition and line up the collar so I can insert a key blank to stabilize the collar. Then I turn the face of the ignition towards the floor to prevent any Wonderlock from getting in the tumblers of the ignition.

Then I carefully put a few drops of Wonderlock around the "butt" of the collar where it goes over the ignition. The Wonderlock flows easily and dries very quickly. The trick is to use the material sparingly and only where needed. It takes the Wonderlock about a minute to set up.

After that, I try the operating key in the switch to make sure the switch will turn and the ignition functions properly.

When I've satisfied myself that the ignition works as it's supposed to, I reassemble the ignition and collect my fee.

Ted Zielinski Jr.
Illinois

ILCO

- WINNER -

Ford Van Rear Door Lock Fix

Recently, I was called out to look at a job that involved Ford F250 vans. It seems someone wanted to see what was inside the vans and forgot their keys to all the trucks in the lot. So this person used something to punch in the lock on the rear door.

The Ford dealer wanted to charge \$348.00 each truck to replace the plastic part that holds the license plate and works the handle.

I went to the nearest home center and in the electrical department purchased reducing washers. I filed the inside of the hole in the washer to accept the lock and inserted the lock in the door and reclipped it.

This quick fix worked great and looked good. It was also stronger than the factory install. For the six trucks it was a lot less than what Ford wanted for one. I also sold twelve American hockey pucks and hasps that day.

Mike Gallagher
Illinois



- WINNER -

Great Cover-up TIP

It is sometimes necessary to replace or reposition a strike plate in a wood door frame which then exposes part of the original mortised cut-out, necessitating the use of spackle.

I have found the following process produces a professional looking job. First, I neatly apply masking tape to the re-installed strike plate, just as if the door frame was going to be painted. Next, I apply Spackle as necessary (slightly higher than the finished surface to allow for sanding since most spackle shrinks as it dries).

Now this is the important part: before the spackle completely sets, I carefully outline the strike plate using a single edge razor blade or chisel, creating a very slight uniform gap between the spackle and the perimeter of the strike plate.

In this way, once the Spackle is ready for sanding and painting, the strike plate can be removed without the Spackle sticking to it and breaking off. Not only that, the finished job looks much like an original installation and doesn't appear to be spackled.

George Kenney
California



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- WINNER -

Shim Picking Trick

While shimming assorted mortise cylinders open to make keys for them; I found a simple and quick way to accomplish this. Due to the contour of some of the keyways, it was slow going using a pick.

I decided to quit picking and try shimming a Yale cylinder, so using an uncut key blank and moving it gently in and out of the keyway, while inserting a shim from the other end. Bingo! The cylinder was shimmed open in seconds! Then I tried this method on a Schlage, Kwikset and Corbin; achieving the same results on all the cylinders.

By using an uncut key blank instead of a pick will allow you to shim a cylinder in seconds. Of course, this only works if you have the cylinder in your hand.

Editior's Note: Ron, you have discovered Shim Picking! It's a great way to get cylinders open quickly. I well remember the first time I saw that done—I was astounded. Thanks for sharing your experience with us and I know that there are going to be a lot of "newbies" out there that are going to say: "Wow! What an easy way to open a cylinder!" Thanks for your tip!

Ron White
California

Sieveking Products Co. — WINNER —

Nissan/Subaru Code Tip

In the May issue, K. D. Harris of Kansas noted a code placed on the tailpiece of a 1992 Nissan NX.

Recently, I had an occasion to make a key for a Subaru wagon with the D25 keyway. I also found a five-digit number stamped on the tailpiece. Dropping the first number did give me the correct code for this lock in the X series.

Removing the lock on this car was not a simple task and putting it back in was extremely difficult. My point is that in the future, I will just remove the door panel (which is not difficult) and read the code off the tailpiece.

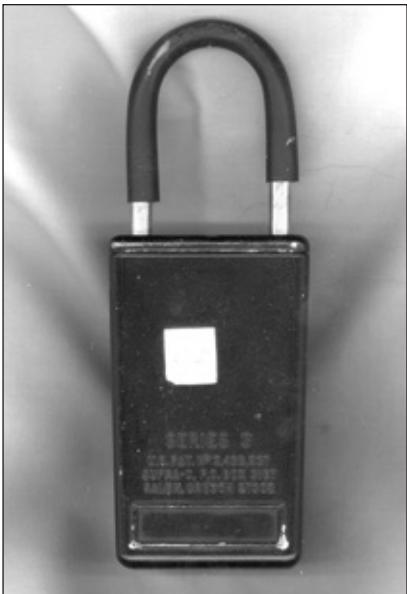
Raiford Ball
Tennessee

Major MANUFACTURING, INC. — WINNER —

Supra Lock Box Tip

A bank called to ask me to make keys for a foreclosed property they had. My contact at the bank told me there was "One of those little boxes on the door that was supposed to have a key in it." (See photograph 1.) He further mentioned that he was unable to get the box open. I asked if he had a combination for the box and he said he had forgotten it.

I scheduled the job and when I got to the site, walked up to the door



Photograph 1.



Photograph 2.



Photograph 3.

to scope the job out. I was ready to begin manipulating the Supra when I happened to turn the box over and on the back was a paper label with the code "SPI", which is the factory preset (see photograph 2).

So, three turns to the left to "S", two turns to the right to "P" and one turn to the left to "I", the box was open, and I had a key in my

hand! As it turned out, that key fit all the doors, so all I had to do was dupe three keys and take the keys, the box and my invoice to the bank.

I make it a policy when I encounter these boxes where the combo is lost or unknown, to always try the factory preset first. Then, I try manipulating them. As you can see in photograph 3, there are a number of false gates on the wheels, but the real gate is deep and can be easily distinguished from the false gates.

As Dale Libby would say: "Open and Prosper!"

Pete Gamble
North Carolina

LAGARD — WINNER —

High Security Lock Removal Tip

A recent customer had attempted to remove a Medeco double cylinder deadbolt from his residence's door and discovered that the two mounting bolts had ball bearings inserted into the Allen heads. He successfully removed one of the bearings and bolt, but the remaining bearing would not come out, even though it was loose enough to rotate.

Using a pocket screwdriver with a head, which had been ground to a narrower width, I wedged it between the bearing and the hex opening. Angling the screwdriver away from the direction that the bolt needed to turn and tapping the screwdriver lightly with a small hammer, I was able to remove the bolt. An awl will also accomplish this as well. (Note: this technique also works on one-way screws.)

Without a spare mounting bolt, I still had to remove the ball bearing. This was accomplished by applying a drop of *Four Minute J-B Weld®* to the head of a small nail. I stuck it onto the bearing and temporarily secured the nail with masking tape. After allowing a short time for the steel epoxy to cure and grabbing the nail with a pair of pliers, I yanked and the bearing came out attached to the end of the nail.

Jim Troeller
California

TNL

1999

Kawasaki Police 1000



• PART 1 •

BY JOHN BLANKENSHIP

Seat Lock



1. This motorcycle served the Reno Police Department before it was auctioned off. There are a lot of ex-police bikes on the road so it is good to know how to service them.



2. The seat lock is located on the left side of the motorcycle just below the seat. Pick the lock clockwise and lift the seat. The return spring will re-lock it when you release the tension.



3. A prop rod will hold the seat up.



4. Remove the 10mm bolt on the right side of the seat latch.



5. You can pop the side cover off by pulling on it. This will give you room to remove the lock.



6. Pull the seat lock/latch unit down and out. It is a tight fit but you can move it around any obstacles and get it out OK.

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Replacement Remote Head Keys



7. The lock has been removed and you can see the code stamped on the side of the cylinder. The code series is Z5001-Z6000.



8. A close look shows the code is a poorly stamped Z5491. You only need to be able to read the last 3 numbers because the 1st character is always a Z and the 2nd character is a 5 unless the last 3 numbers are 000, then it is a 6.



10. A retaining pin holds the plug in the cylinder. I used a spring-loaded center punch on the drill point.

9. A code cut Silca KW12P with cuts of 341121 turns the ignition, gas and seat locks smoothly. An Ilco X103 and Jet KA14-NP will also work.

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11. After drilling a small hole, I used a nail set to pry the retaining pin out.

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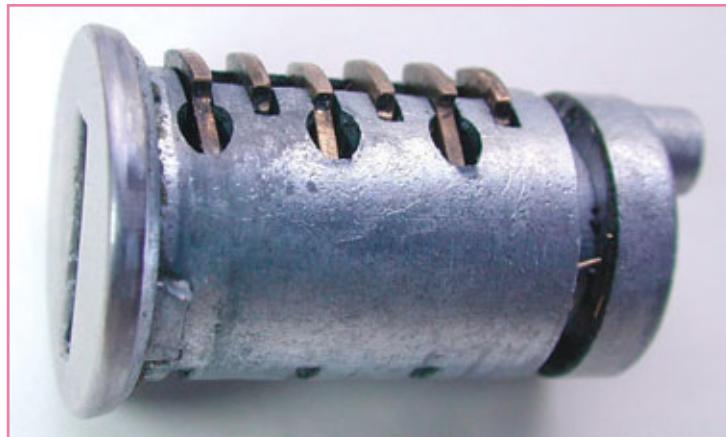
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12. The plug contains all six wafer tumblers.



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13. After reassembly, I set a lead split-shot on the hole and used a hammer to pound it into the hole. Split-shot are used to weight down fishing line, come in various sizes, and are available at fishing tackle stores.



14. I used a file to smooth down the lead so it was even with the cylinder.

Next month we will cover the gas cap lock and saddle bag lock.

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A NOTE FROM THE CIRCULATION MANAGER

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BUSINESS BRIEFS

KeylessRide 300th Retail Location

KeylessRide, the most convenient source for replacement automotive keyless entry remotes, recently included the company's 300th retail location. In less than two years, KeylessRide has partnered with 300 locksmiths in 45 states and three countries to offer consumers an alternative source for replacement car and truck remotes. "Our high-growth rate can be attributed to two factors. Customers are demanding a hassle-free experience when buying remotes, and our Locksmith Partners are offering the kind of customer service only found at smaller owner-operated businesses", stated Michael Laranang, Managing Partner of KeylessRide. "Customers want a one-stop shop for car keys and remotes, and our locksmith partners are offering that venue".

DiMark Selects MBA USA, Inc.

DiMark International has selected MBA USA, Inc. to carry on its exclusive distribution of German made Börkey key blanks and key machines in the United States. Retiring after successfully representing Börkey for 30 years, DiMark owners Diane and Mark Pirman were very particular regarding

which company would fill the void. DiMark selected MBA from a field of strong candidates, and Börkey readily agreed to the selection.

MBA President Mark Bates first became familiar with DiMark and Börkey as a locksmith in California in the mid 1980s. He found the quality of Börkey machines to be superb, and used them in his own business. Twenty years later, he is proud to have had his company selected to carry on the proud DiMark tradition. MBA will also handle the Steel King and Keyway King machines, both of which DiMark has handled successfully for many years.

In addition to Börkey, MBA distributes La Gard safe locks, HawkEye borescopes, StrongArm drill bits, and many other quality products.

They may be reached at 888-622-5495, on the web at www.mbaUSA.com.

Big Binders Return to JLM Wholesale

JLM Wholesale is pleased to announce the return of their "Big Binders". These binders include detailed product and ordering information. They will be shipped with their latest brochure and an interactive CD to existing customers. The binders can also be accessed on www.jlmwholesale.com.

Institutional Locksmiths Association Golf Outing

The Great Lakes Chapter or the Institutional Locksmith Association is having their Third Annual Golf Outing. This will be held at Glen Eagles Country Club, 13070 McCarthy Road, Lemont, Illinois on Thursday, September 23, 2004. Tee times will start at 10:00AM sharp. The cost to play golf is \$65.00 per person and includes, golf, cart, dinner and drinks, with 1 hour of open bar after golf. There will be prizes for longest drives, closest to the pin, low score, high score, etc.

If you have employees, clients, or friends that play golf, they are invited to participate. The Great Lakes Chapter is hoping for some support in sponsoring one or more holes at \$200.00 each. This money will help defray the cost of the outing and provide prizes. The holes that are sponsored will have a sign with that company's name.

For more information visit them on the web at www.ilagle.org.

IR Acquisition of FX Technologies

Ingersoll Rand has acquired the assets of FX Technologies. FX Tech. Provides one-source security systems integration solutions including consulting and database systems engineering for global

corporations and other organizations with critical security requirements. FX Tech. will be integrated with IR's Electronic Technologies Corporation business unit, which operates in the USA as part of IR's Security and Safety Solutions.

With this acquisition IR has expanded its US sales and service branch network and enhanced their ability to serve established and prospective clients.

Hirsch Expands Sales Organization

Hirsch Electronics has appointed John Coker to the newly created position of Director of North American Sales. Mr. Coker will be responsible for directing the team of Hirsch regional managers as well as assisting with the management and development of strategic end users, dealers and system integrators. Mr. Coker's career in the security industry spans more than twenty-five years.

DynaLock's New Sales Reps.

Dynalock has appointed SoCal Security Sales from San Diego (858) 274-8402 as sales representatives for southern California, and has also appointed Professional Security Consultants from Blue Springs, MO (816) 444-4092 for Missouri, Kansas, Iowa and Nebraska. **TNL**

THRU THE KEYHOLE

A Peek at Movers & Shakers in the Industry

ATTENTION MANUFACTURERS AND DISTRIBUTORS:

Would you like your company and products to be profiled in *Thru The Keyhole*? Please call Editor, Greg Mango, at (630) 837-2044.

D&D Technologies USA, Inc.

D&D Technologies began in Australia in 1989, though it evolved from a fencing company that had been in existence from the early 1980s. U.S. operations were established in 1993. D&D's U.S. headquarters is in Huntington Beach, California.

The group in the photograph includes the leaders of the D&D teams in Australia, where the products are manufactured, and in the U.S. The group includes design engineers, the CEO and CFO, regional sales managers, product managers, PR and marketing managers, and graphic designers.

D&D Technologies has designed and manufactured gate

hardware since the company's inception. The company is well-known in the fencing industry in both the U.S. and Australia, and is quickly gaining recognition in the growing European market. Several years ago, in answer to the expressed need for higher security hardware for doors as well as gates, D&D Technologies began R&D on a new line of stainless steel architectural hardware.

Designer/inventor David Evans came up with the concept of the Forté™ line to address the vulnerabilities of a traditional hasp-and-staple padlock system. The Forté PullBolt and the Forté HaspLock shroud the locking mechanism in 316-grade stainless steel, so the locks are

highly resistant to leveraging, hacksawing, prying and oxyacetylene cutting. Evans and other members of D&D's design and engineering teams developed single- and double-hinged models of the HaspLock, in addition to the regular model, to deal with difficult security applications, such as vending machines.

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Left to right: Irek Karcz (Aus), Rich Woodbeck; President and CEO David Calabria; Rod Kraft, Ed Valdez, Gary Lisko; Australians Frederica McCauley, John Clark and Phil Doyle; Maureen Williams, Brian Sweet, David Rose (Aus) and Steve Pleasants.

Taking Industry Products for a...

TEST DRIVE

INSTALL-A-LOCK by MAG



THE NEED:

Ever since locks were first installed, someone has been forcing their way into them, and the repairs from such attempted entries can be costly and difficult. Often times the door had to be replaced because the damage was beyond the scope of available repairs. This applies to residential and commercial applications.

THE ANSWER:

Mag Engineering saw the need and in 1972 they patented an answer to the need with the Install-A-Lock product. They recognized the need for many different styles of applications and in 1987 they designed and patented the residential door reinforcer.

THE PRODUCT:

The MAG Install-A-Lock products are a simple design, forming a U shaped metal plate to cover the needed area, whether it is from a forced entry or a need to cover old holes from a previous installation.

Today, MAG manufacturers such a wide variety of reinforcers that it is difficult to find an application not covered by one of their products. They range from the most common plate with a 2-1/8" hole and backsets from 2-3/8 to 2-3/4" and door thickness from 1-3/8 to 2-1/4". Thicker doors can be accommodated by special order requests.

Other applications include deadbolt, deadbolt and knob combinations,

double locks with 3-5/8" between centers, 4" between centers and 6" between centers, lever locks for specific brands like Corbin-Russwin and Schlage, specialty locks like Simplex, Kaba Ilco and Alarm Lock as well as blank covers and mortise lock plates.

The reinforcers are available in both a boxed unit and a visual pack and range in height from 4-1/2" for the deadbolts to 14" for some of the specialty locks. They are also available with either a mortised cutout for the latch bolt or a flat surface where the latch bolt is attached to the wood underneath.

As you can see, MAG has most of our needs covered, if you don't mind the pun.

THE INSTALLATION:

One of the best parts about MAG'S Install-A-Lock products is their ease of installation. Even if a door has been damaged, all that will usually be necessary is to flatten most of the damaged area so the cover will slide over the area affected.

If you are installing the cover on a wooden door, you will have to widen the mortise for the latchbolt to be able to slide the cover on completely. Just cut out a portion of the wood around the opening. It will be covered by the Install-A-Lock so it will not be seen.

When placing the cover for final attachment to the door, it is important

IN SUMMARY:

DESCRIPTION: A metal cover for damaged or retrofit applications to cover existing holes and makes for a quality repair.

PRICE: From \$10 to around \$50.

COMMENTS: I have used MAG'S Install-A-Lock for many years with complete confidence and satisfaction. This is one product that fills a need we all have and does it with a quality product.

TEST DRIVE RESULTS: The Install-A-Lock is easy to install and has a wide variety of available options that make it a very useful product. It is a good quality product that should be in everyone inventory.

to be sure you have sufficient space between the door and the jamb to be able to close the door without drag. This can be aided by being sure the plate is tight against the edge of the door before placing the four screws through the cover to attach it to the door. I often like to slide a flat screwdriver into the opening to be sure I have the plate as tight as possible.

To attach the cover to the door, simply screw the included screws into the wood. I like to place the screw as tight against the side of the hole as possible to eliminate movement of the cover. If you are installing the cover on a metal door, the screws will work but I prefer to use a pop rivet for a tighter fit.

Since the Install-A-Lock is available in a wide assortment of colors including US3, US10, US5, and 26D, it is not difficult to match the color of the cover to the color of the lock for a more professional looking installation.

PRICE:

From \$10 to around \$50 depending on your needs and application.

For more information contact:

MAG Engineering Co.

15381 Assembly Lane

Huntington Beach, CA 92649

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